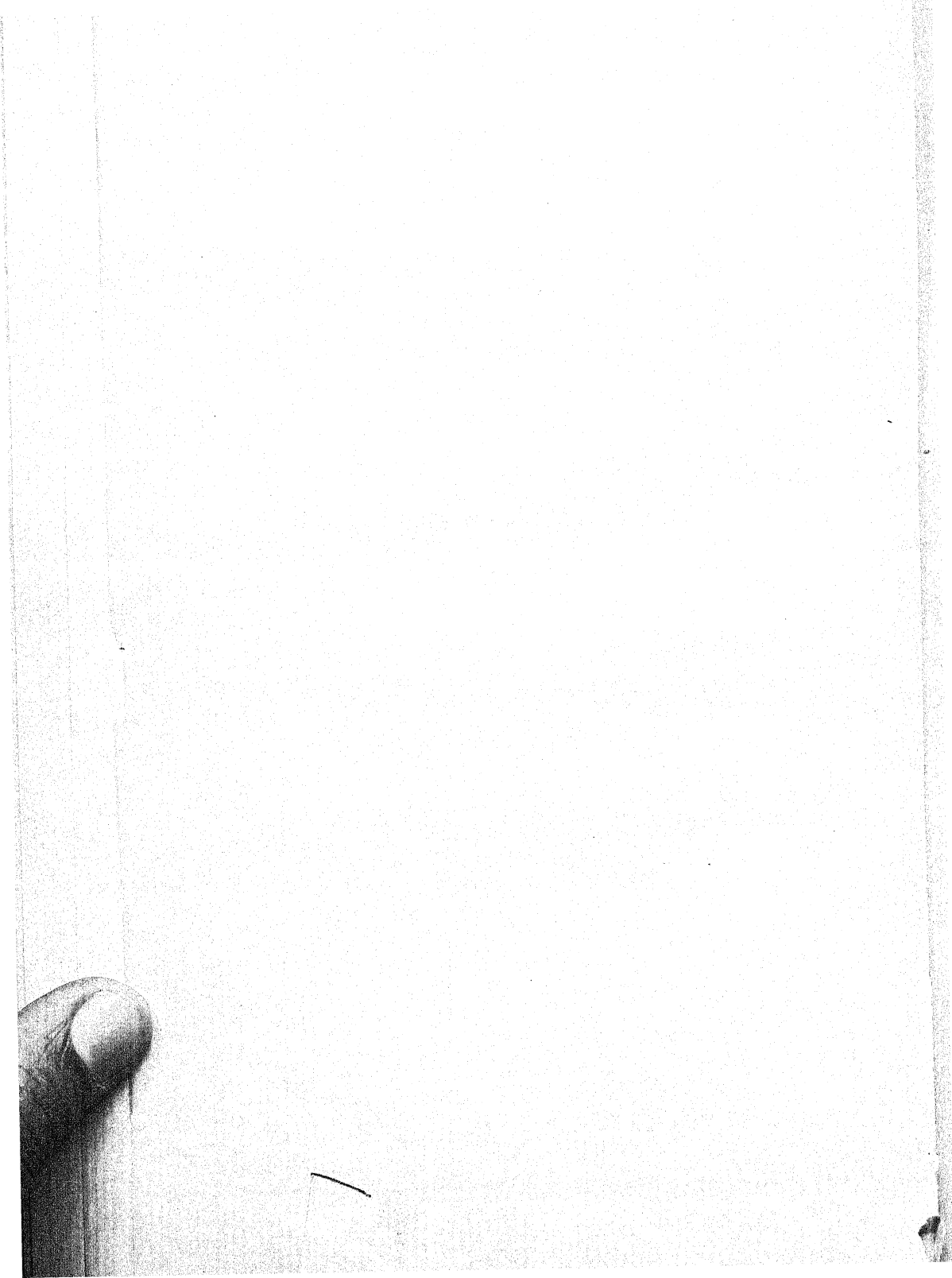


JOURNAL
OF THE
ROYAL ASIATIC SOCIETY
OF BENGAL

LETTERS

VOLUME VI

1940



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**Some Aspects of the Cultural Life of the Khasas
of the cis-Himalayan Region.**

By D. N. MAJUMDAR.

(Communicated by Dr. B. S. Guha.)

INTRODUCTION.

Over a great area of the Himalayan region, both trans-Himalayan and cis-Himalayan, it is customary for a man to share his wife or wives with his brothers. This is known as fraternal polyandry as distinguished from the matriarchal polyandry that used to be commonly practised in Malabar where the husbands of a woman were not necessarily related to one another. In fraternal polyandry, the wife comes to live with the group of husbands; in the matriarchal form, she remains in her own house, the husbands come to live by turn as visitors. Property under the fraternal type of polyandry passes from father to son, in the matriarchal type, the woman owns it and passes it on to successors in the uterine line. Polyandry appears to have been a widely practised form of marital relationship, and though some authorities tried to nail down polyandry to the name plates of non-Aryan, Tibetan or Dravidian tribes or castes, there is no doubt that Indo-Aryans and their progenitors did preserve this institution, within limits, and today, the various Indo-Aryan tribes living in the region of Turkestan, Hindukush and the cis-Himalayan area are definitely polyandrous. Whether polyandry is a racial trait or not, today it is a system of marriage affecting the lives of at least 30 millions of people.

The Himalayan region contains three important ethnic groups, which have mixed in varying proportions to produce the many types and groups that one meets in these parts. These comprise, as it were, three bands of ethnic formations. The highest altitudes are inhabited by the Mongoloid races whose nomadic incursions into the south, south-east and south-west have contributed to 'yellow' infusion among the descendants of the Indo-Aryan immigrants in these parts. The advance of the Indo-Aryans into the Punjab was marked by successive waves of immigration. They were first established in the sub-Himalayan districts of the Punjab. The plain of the five rivers must then have been dense jungle interspersed with large marshy areas. On reaching the plain, the immigrants could have turned in two directions, either east along the north of the

plain, or southwards along the Baluchistan border. They probably followed both these ways. As a knowledge of agriculture was not unknown to these immigrants, some of them naturally chose the foot-hills to which they had been accustomed while in Turkestan. The penetration of the various Indo-Aryan hordes into the hills and inaccessible tracts may also be due to the fact that the earlier immigrants came in conflict with the incoming hordes who drove them from their original settlements, and the former had to take shelter in distant hills and were given the most opprobrious epithets. The aboriginal population which is Austric or pre-Dravidian is represented by the Dom, a generic name which also includes many artisan castes most of which are hybrids being offshoots of mixed marriages between the Indo-Aryan invaders and the aboriginal races. The Indo-Aryan immigrants who still dwell in their original settlements may have maintained their racial purity, but those of them that have wandered away from their home and have penetrated into secure asylums in the hills and forests have not, though as a result of their settlement among inferior races they established their cultural dominance over the latter. Consequently, the highland regions of the Himalayas form even today a residual island which still preserves social customs that once had probably a more extensive distribution.

The 'Khasas' or the 'Khasiyas' who constitute the high caste people of the cis-Himalayan region are either Rajput or Brahmin, though intermarriage between them has not been barred by the rules of caste endogamy. The artisan castes are recruited from the Doms whom the Khasas brought with them or subjugated. The Rajputs and Brahmins have freely mixed with immigrant people but have preserved themselves from contamination by the infiltration of Dom blood by strict prohibition of marriage with the artisan castes. The latter are decidedly of inferior social status and looked down upon by the Khasas as such. There has been some infusion of Mongoloid blood among the Khasas but it has not occurred to any appreciable extent in Jaunsar-Bawar. It is found in Gharwal and adjoining States and is probably due to Tibetan influence.

The Khasas are usually tall, handsome, fair (rosy or sallow white) complexioned, possess long heads, vertical forehead, fine or leptorhine noses, hazel eyes with a sprinkling of blue, curly hair and other features wellcut and proportioned. The women are also comparatively tall, slender and graceful, of a very attractive appearance and extremely jovial disposition. There is little difference in physical features between Khas-Brahmins and Khas-Rajputs, and intermarriage must have taken place and does take place even today. The mean stature of 100 Khas-Brahmins is 163.3 cms. and that for 100 Khas-Rajputs is 162.4. The mean cephalic indices are 71.33 and 71.60 respectively. The nasal index (mean) for 100 Khas-Brahmins is 66.29,

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that for the Khas-Rajputs is 67.25. As the results of anthropometric measurements of the Khasas will be published separately, further details will not be given here. The Khasas are conscious of their superior lineage, for they affiliate themselves to the Pāṇḍavas of the Mahābhārata fame and are indeed proud of their polyandrous custom, as they say it was the usual practice among their progenitors, the Pāṇḍavas.

There is ample evidence of the physical similarity of the Khasas with the Kasmiras and there is remarkable similarity of the Khasa family law with the Punjab customary law, notably with customary law in the Kangra hills. The reference to Khasas along with the Kulutas (residents of Kulu), Tanganas and the Kasmiras in the Brihat Samhita, and of the occupation of Madhyadesha by the Khasas and the Śakas in the Viṣṇu Purāṇa, Hari Vamsa and in the Mahābhārata go to prove the antiquity of the Khasas. The Khasas most probably occupied various parts of northern India in prehistoric times, and there is some truth in the statement that they occupied large areas from Kashmir to Nepal. The fact that the Khasas are described in the Mahābhārata (Droṇa Parva) as having arrived from diverse realms corroborates the above hypothesis. Manu refers to the Yavanas several times in his code of laws along with the Śakas, Kambojas and other rude tribes on the borders of India. In one place (X. 43 and 44) he writes as follows: 'The following races of Kshatriyas by their omission of holy rites and by seeing no Brahmins, have sunk among men to the lowest of the four classes: viz., Paundrakas, Odras, Dravidas, Kambojas, Yavanas, and Śakas; Paradas, Pahlavas, Chinas, Kiratas, Daradas and Khasas'. These are all described as Dasyus or wild people who were descendants of the four original castes, mixing promiscuously with one another and neglecting their religious observances (Book X. vv. 12 to 24). In the Mahābhārata it is said that these tribes of Kshatriyas have become Vrishalas from seeing no Brahmanas (Muir's Sanskrit texts, 2nd Edition, I, p. 482).

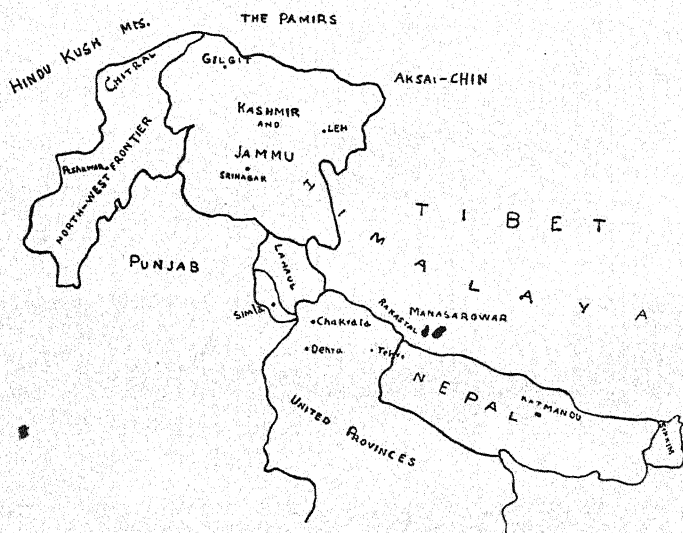
The Khasi clans of Assam are not related to the Khasas of these parts, for the physical features of the two groups differ considerably and unless we suppose a large scale mixture of the Khasas with the Mongoloid tribes of Assam, the Mongoloid features found among the Khasis and absent among the Khasas are difficult to explain. The Khasas probably represent the eastern outpost of Indo-Aryan penetration in the cis-Himalayan region. A. C. Turner writing about the Khasas (Census Reports, Vol. I, pt. III, p. 24) quotes relevant evidence to prove that the occupation of the Khasas took place long before the Christian era.

I propose to describe below the culture pattern of the Khasas or Khasiyas of the cis-Himalayan region. For purposes of intensive investigation, I have confined my study to Jaunsar-

Bawar in the Dehra Dun District, though my observations apply equally to other parts of this culture area.

The Physical and Economic Geography of Jaunsar-Bawar.

The district of Dehra Dun which occupies the northernmost part of the Meerut Division in the United Provinces, lies between $77^{\circ} 35'$ and $78^{\circ} 20'$ east longitude and $29^{\circ} 57'$ and $31^{\circ} 2'$ north latitude and has an area of 1,193 square miles. Geographically the district is divided into two regions—the Dun proper, which is an open valley enclosed by the Siwalik hills, and the outer scrap of the Himalayas, and the hill Pergannah of Jaunsar-Bawar which is the hill appanage of the Dun. The latter is a roughly oval tract of hilly country with its major



axis lying north and south. The boundaries of these two tracts, viz., the Dun proper and Jaunsar-Bawar, are sufficiently clear and well marked. The Dun valley is enclosed within the Himalayan range, the Siwalik hills and the rivers Ganges and Jumna. The river Tons sweeps round Jaunsar-Bawar from the north and finally with a 'course trending the main south joins the Jumna near Kalsi'. To the north and east of Jaunsar-Bawar lie the States of Tehri, Jubal and Sirmoor, and to the south lies the Dun valley. For administrative purposes, Jaunsar-Bawar is included in the Chakrata sub-division of the Dehra Dun district. The whole of this tract is rugged and full of precipitous mountains with little level ground. There are many tall peaks varying in height from 5,000 to 12,000 ft. and some of these give off ridges, which 'suddenly descend to dark chasm'. The rocks are mostly of lime-stone which account for the irregular and

massive formations. There are many ravines, some bare, some wooded, while the valleys are covered with fine grass enabling herds of buffaloes to live and multiply and supply milk for the *ghee* industry.

Jaunsar-Bawar contains large tracts of forest area and numberless hills densely covered with tall trees and thick vegetation. Few villages are found in these hills as land for agriculture is not available, the declivity of the slopes being too steep for cultivation. The chief species of trees are the *Deodar* (*Cedrus deodara*), the *Chir* (*Pinus longifolia*) and the *Kail* (*Pinus excelsa*). The last is a variety of *Chir*. *Deodar* and *Chir* are both of great commercial importance, and are used in the construction of houses and manufacture of railway sleepers. *Chir*, though not so durable or important as the *Deodar*, is still of great commercial value. Besides supplying timber, turpentine and rosin are extracted from its resin. There are also other species like the *Ban* (*Quercus incana*), *Moru* (*Quercus dilatata*), *Akhrot* (*Juglans regia*), *Darbi* (*Cedrela serrata*) and *Thuner* (*Taxus baccata*). All agricultural implements, the wooden parts of them, are made from *Moru* which also supplies walking sticks. *Akhrot* gives fruit (walnuts) rich in fat while the wood is specially used for making butts for guns and the bark of the *Thuner* serves as a substitute for tea. A number of species of fruit trees are found in the hills, such as *Amla* (*Phyllanthus emblica*), *Hinsar* (*Rubus* species), *Kingar* (*Berberis* species) and *Mol* (*Pyrus pashia*).

There are a number of rivers and rivulets in Jaunsar-Bawar though few of them are perennial streams. In the summer months they dry up and water is only available in deep water holes and gorges sheltered from the heat of the sun, but during the rains, they are roaring torrents, full and swift. The economic value of these rivers lies in the cheap carriage they provide to timber felled in the forests. The difficulty of transport is great in the hills and is minimized in the case of sleepers by the small '*gads*' (rivulets) which are used for transporting them. As there is hardly any market for timber in the hills, it is carried down to the plains and the rivers and streams help in facilitating such transport. Where there are no *gads* the sleepers made on tops of hills are carried down by the dry-sliding method or by human labour; the latter is indeed a painful process particularly where the descent is precipitous. After the sleepers are brought near the *gads*, there is a further difficulty to overcome, for there is seldom enough water in the *gad* to carry the sleepers down with the current. An artificial channel is made by damming water at a distance and the sides of the streams are carefully planted with sleepers in such a way that water may not escape through the gaps in the arrangement. These are stopped by covering the escapes with leaves and grass. When an artificial channel about two furlongs or so is thus made, the sleepers are

put in the water and are pushed towards the *dam*. In this way all sleepers are made to accumulate at the end of the artificial channel which is broken from the mouth and then they float down. A new channel is again made, the process continues till the sleepers reach big rivers like the Jumna or the Ganges which contain water sufficient for transporting them further down. Although the Forest Department spends huge sums of money every year, the indigenous inhabitants seldom take advantage of employment in these forests. The bulk of labour skilled as well as unskilled comes from outside, the skilled from the Punjab and the unskilled from the neighbouring States and Garhwal.

Jaunsar-Bawar forests are rich in natural fauna: *Kasturi* (Musk deer), *Bar Singha* (stag), *Bhālu* (bear), *Sāhi* (Porcupine), *Bāgh* (Panther), *Ead* (Flying Squirrel) and many other species of animals are found. The Khasas eat flesh of *Kastura*, *Ther*, *Barad*, *Bar Singha*, *Ghold*, *Kakhar* and the skins are used for various purposes. There are plenty of birds, *Unal*, *Titar*, *Chakor*, *Phakbons Battak*, *Murgi* whose flesh the people eat, but they do not eat crows or pigeons. The forests are grouped into different classes, some reserved, some protected, others free or village forests. In the free forests hunting is allowed and the men take advantage of it. Hunting is usually a co-operative undertaking in Jaunsar-Bawar, for a number of men join together and take part in regular expeditions. The simplest way is to fence a plot of forest and men and women throw stones inside the fencing so that the animals may come out frightened attempting to escape. Stones are hurled from all directions and after some time the animals get exhausted and succumb to the injuries sustained during the onslaught. The other method is known as *Jibalu* and is ordinarily meant for the capture of panthers. These are greatly feared by the people. A cage-like device is made with stones and wooden planks and a goat is tied inside so that through the small opening which is automatically sealed should the panther enter the cage for the goat, the animal is captured alive. Most interesting accounts of methods of killing bears, are given by Khasas which figure also prominently in the folklores of the hill people. Curious beliefs about the nature and habits of the bear are found in Jaunsar-Bawar. A bear when it attacks men in the forests usually scratches the face of its victim and this, according to the Jaunsari, is due to its proverbial jealousy of the beauty of the human face. Though it is a dangerous animal, the hill people are by no means afraid of it.

Stories are current about the many indigenous methods of capturing bears. The bear, as a rule, attacks men from behind jumping on the back. One interesting method may thus be described though it appears highly improbable; two persons go out into the forest with two long baskets called *Ghildis* and sticks. The bear jumps on one but the latter so adjusts his *Ghildi* that the bear drops into it. The other man then belabours the animal

with his stick. To avenge this the bear jumps on the other man who also places his *Ghildi* in such a position that it is immediately trapped. The first man now strikes on the bear's head with his stick and between the two they kill the animal. This method of hunting bears, if it is practicable (which indeed is doubtful), shows that the hill people are careful observers and they know how to take advantage of the nature and habits of the animals with whom they share the forests.

Jaunsar-Bawar is a cold country. Though in the valleys of the Jumna, the Tons, and their feeders there is considerable heat from March to October, the winter is usually pleasant. On the higher altitudes, the thermometer sometimes records over 20 degrees of frost. The winter months are spent in feasts, and festivities by the people as no agriculture is possible on the hills. This is the time when the hill people kill their goats and feed their neighbours and for a month or more feasts continue and mutton and beer are all that they live for.

The Jaunsaris are very fond of building substantial houses. These are made of timber in beautiful surroundings with the small terraced fields below, and are picturesque in silhouette against the hillsides. The villages are usually situated in valleys or on the slopes of hills, but never on the top. Winter is very severe on the hilltops and continual snowfalls and severe cold blasts make living on the higher altitudes difficult and dangerous to the extreme. The need for warmth in such a climate makes the people extremely fond of the sun, and they build their houses in such a way that they get the maximum period of sunlight. Besides sunlight, water is precious in the hills, and the villages are built by the side of hill springs or on the banks of rivulets, so that water may be brought to the village by channelling it from higher levels.

A group of villages co-operate in distributing water to the villagers and definite schemes for apportioning water by the villages are carefully drawn and executed. These make it obligatory for a village to keep the channel within its boundary in good condition, to insist on the use of water by the village and also to co-operate with neighbouring villages in contributing labour for constructing or reconditioning the springs, reservoirs and channels on which supply of water to the entire group of villages depends. The small terraces available for cultivation are intensively treated as farming demands skilful manuring and irrigation in these regions. Water for irrigation is brought to the terraces sometimes from rivers and rivulets through small *kuls* or channels skilfully cut on the rocks. The usual method is to make a dam across a *gad* or river at a suitable place and from there the water is brought through a canal, one to three feet wide and one to two feet deep to a point at the highest level of the field. If a continuous channel cannot be made on account

of surface conditions, a *patnalu* connects the ends of a *khalu* or gap which is otherwise unbridgable.

Patnalu is made from the trunks of trees, by hollowing them lengthwise so that they may serve as channels for water. The construction and maintenance of *kuls* are often the concern of a group of villages so that they are either made by collective labour or by someone known to be expert in making them. In the latter case, the villagers have to contribute their respective shares towards the stipulated amount to be paid to the artisan or contractor concerned. The contribution of individual families is proportionate to their share in the village land, and is decided by the *Sayana* or headman of the village, or of a group of villages which are served by the *kul*. The maintenance of a *kul* during the months of July and August, when there is heavy rainfall in these parts, is a difficult job and the entire village or a group of villages has to take the work in hand. Though usually there is no quarrel among the villagers on these matters, for the authority of these headmen is still regarded as sacred by them, dissensions regarding the distribution of water are frequent. The headman with the assistance of the elders of the village has then to intervene and settle the disputes.

Another use made of *kul* in these parts is the running of *ghats* or grinding mills worked by waterpower. A *ghat* may be owned by an individual family or a group of families. If it is owned by a particular family its use by others is ungrudgingly allowed and custom demands that a small portion of the ground stuff be given to owner of the *ghat*, as his rightful share. There is nobody to receive it and it is usually kept in a basket or a leather bag, provided by the owner. The Khasas possess an extraordinary sense of right and wrong, of honesty and justice, and they seldom abuse this privilege.

The *ghat* is enclosed within a small rectangular thatched house or one made of timber and slates. The mechanical device is simple enough. As the mill is worked by waterpower, water must be brought down from higher level with sufficient force so that it may set the mill working. Water is brought from *gads* and is carried through a wooden channel known as *pandal* which is dug out of trunk of trees. The *ghat* is made of two round flat stones, one placed over the other, the lower one is the *tali*, the upper one is known as the *pat*, the *tali* is fixed on the floor with an iron nail running vertically through the centre of the *tali* over which the *pat* is placed. This pair of circular stones is connected with a wooden block called the *verum* with projecting flat sticks called *panwals*. It is so arranged that no sooner the running water rushes against the *panwal* the *verum* starts moving and there is a device by which it makes the *pat* move on its own axis—the iron nail. A wooden container wide at the mouth and narrow at the lower end is connected by means of a tubelike arrangement with the *pat*, so that with the rotation

of the latter grain put in the container pours through the narrow end of the tube into the mill which grinds the corn and releases the flour.

We have already said that the Jaunsaris build substantial houses. These are usually built of timber, mud, and slates. For timber they use *Deodar* and it is only the poor people who use inferior stuff. Iron is not very commonly used in these parts. The houses are rectangular in shape and consist of two or more storeys. Each storey has a single room and the height is just enough to allow a man to stand erect. As the average family possesses one house, if it is two-storeyed which it usually is, the ground floor is used to house the cattle so that all the members of the family have to share the only other room in the house. Several brothers with their common wife or wives sleep in this room, so that the total output of animal heat may serve the purpose of comfortable bed. Here also they cook their food, keep their belongings, and lounge during the day. Some families possess a *Kuthar* or small storehouse separately built in the yard, but as the levels of the two houses are not the same they are connected by an improvised staircase. There is not much scope for ventilation in the house except through the big door made of a single solid plank or two or more planks joined together so as to form one piece which can be fastened from inside as well as from outside by means of iron rings, and hinges. Besides the big door at the entrance, there may be one or two small windows in every room, which are like small holes and usually kept shut from inside the room. On the first floor there is a *Khadru* (wall almirah) three feet by one to two feet, which is used for keeping odd things and the small belongings of the family. The oven is inside the room. A big flat stone (*pathal*) is placed on the floor, and another at right angles to it, leaning against one of the walls, the stone is thickly plastered with mud, so that there is no chance of fire heating the stone so that it can set the wooden floor ablaze. The fire in the oven is kept smouldering day and night and is replenished with leaves and twigs as required from time to time so that the inmates of the house can get fire for tobacco and curl round it to keep the severe cold at bay. There are two to three mouths in the oven so that two or more pots may simultaneously be placed over it. A small hole in the roof covered by an adjustable piece of slate provides an escape for the smoke and also allows light to enter when necessary. There is a balcony around the upper storey known as *Chhajja*, made by projecting the wooden beams of the house on all sides and planking them over. There is a wooden railing round the balcony for the protection of the children. In the yard of the house, a small area is paved with flat stones which is used for drying grain and massaging and sunbathing which are popular recreations in these parts. As the people do not take frequent baths due to scarcity of water in the summer, and

intensity of cold in the winter, daily massage and application of oil on the body are regarded as essential for personal hygiene, and it is the wife's duty to oil and massage her husband or husbands. So used are the Khasas to this form of comfort that they regard this service from the wife as a husband's privilege.

The Khasas decorate their houses with carvings on the wooden walls and beams. These are very nicely executed and show unusual skill. The ends of beams which project out of the roof are artistically carved to resemble the faces of men and animals such as panthers, monkeys. Where two or more ends of beams meet the carving shows superb technique in depicting the faces of animals. On the walls of the houses, particularly the front wall of the main house, and the balcony of the *kuthar*, the carvings of flowers, animals, etc., are carefully made. Scenes depicting hunting and other activities of the people are also drawn on the sides of houses.

The front wall of the house is painted brown or light red, and the artistic mural decorations are given their proper colour, so that the houses in Jaunsar-Bawar appear to be attractively designed and substantially built. Old houses which have stood on hillsides for a century or more were all built of *Deodar*, but as the *Deodar* forests have been closed down by the administration, it is with great difficulty the rich among them can secure *Deodar* for building purposes. The poor people now use *Chir*.

The construction of houses is not usually the work of the family concerned. There are certain families known as Oad who are skilled in this work and these are usually employed by well-to-do families. The Oad is paid in kind; during the period he is engaged in the work, his family is fed by the employer and after the work is done, he receives some further reward in coin or kind or both. Every family which needs the services of an Oad has to pay some annual contribution (*dadwar*) to him after the harvests reach the threshing floor. When the house is ready for occupation the owner has to sacrifice a goat in the yard and the blood of the sacrificed animal is ceremoniously sprinkled round the house to propitiate the evil spirits so that the occupants may have nothing to fear from their wrath.

The Jaunsaris use clothes of indigenous make. In the winter they wear a *choli* or woollen *achkan* which reaches down to the knees and a *suntan* or *pyjama* to cover the legs. In the warm weather the *pyjama* is replaced by a piece of rag round the loins and the *choli* over it completes their dress. This is why the people of Jaunsar-Bawar are occasionally described as naked Aryans, because the legs and thighs are completely bare during the summer. For a belt they use a long piece of cloth which is wound round the waist many times. The usual head-dress is provided by a turned cap with the edges rolled up while their shoes are made of leather soles and woollen tops. Recent contacts with Chakrata have effected certain significant

changes in their dress, in pattern as well as in material, and men are found to wear coats and vests which they buy secondhand from dealers in Chakrata. The sizes and cut of the *choli* made locally have also undergone some modification.

The women have not changed their dress much, though there are Jaunsar belles who don jumpers and silk sarees made into skirts which they buy at fairs or in town. The women use a type of *choli* known as *ghundia* which is longer and its lower half is decorated with plaits and flaps. The upper part of *ghundia* resembles a jumper with or without sleeves. It has now become fashionable to don cotton clothes instead of woollen in summer. Women prefer to put on cotton and silk if they can afford to. As they do not spin cotton, most of the cotton clothes are imported from outside, but well-to-do families have planted cotton trees and the spinning of cotton is becoming popular in Jaunsar.

Dress and ornaments have so great a fascination for the women that frequent quarrels with husbands occur if the latter do not provide them with fancy articles of dress or ornaments. While in Gharwal and adjacent Simla States polyandry is being gradually replaced by marriage between single pairs, in Jaunsar-Bawar even a group of husbands often find it difficult to maintain a wife whose demands for clothes and finery are on the increase. Frequent quarrels arise when the wives complain against their husbands for incompetency to provide them with heavy ornaments, and divorce or *chhut* often arises from these complaints.

The usual ornaments worn by Jaunsar-Bawar belles are many and varied and the shape and size of these are different from those one finds on the persons of women in the plains. The majority of the ornaments worn in Jaunsar are meant for the ear, nose, and neck. Various kinds of necklaces are worn of which *Chharu*, *Jantar* and *Khagwali* are the most popular. The *Khagwali* is a thick flat necklet of one piece with the ends thinned out and tightly set round the neck. The *Chharu* is a bead necklace while the *Jantar* worn round the neck is made of flat pieces of silver, square or oblong and of various sizes. The most coveted ornaments are those for the ear called *Murkhula*, and the combined weight of these has the effect of dilating the lobes and elongating the ears. A number of these is usually worn by a woman and the whole ear is perforated to provide a base for these earrings. Often one finds a woman displaying earrings which she cannot hang from the ear, in a string put round the head. All the ornaments thus described are made of silver while the *Natholi* or the nose-ring is usually made of gold. This is a large ring thick at one end being inset with small silver or Munga beads. The thicker or heavier side is kept on top and is tied with a cord to the hair in such a way that it passes over the left cheek bone under the left eye. Besides these ornaments the

women also put on bangles usually known as *Dhagula* which are heavy and worn on the wrists. Men do not wear any ornaments but small earrings are often found on the persons of young men. Tattooing is popular today in Jaunsar-Bawar and women usually tattoo their arms, hand and feet. These are locally done by pricking the parts with a needle and injecting into the scratches a kind of vegetable dye.

General Economic Life

The main occupation in Jaunsar-Bawar is agriculture which the hill people have carried to perfection. The tiny terraces are carefully prepared and are richly manured with cattle excreta which their pastoral occupation freely provides, and water is skilfully brought to the terraces from distant springs, rivers or reservoirs. The land in Jaunsar-Bawar is of different quality and even the same village has lands of varying fertility. The nature of the hills is responsible for this variation in quality, for some hills are made of rock, others of soft earth, and the nature of the soil determines the fertility of the fields. Again land is divided into irrigated and unirrigated, the latter depending entirely on the rains and the moisture that can be preserved on the soil by preventing water from precipitation running out of the field. This is done by putting boundary walls of stones or by putting tree logs to prevent wastage of rain water.

A number of subsidiary occupations are followed in Jaunsar-Bawar, the chief being wool and ringal industries and the manufacture of articles of domestic and agricultural use. The cold climate of the hills makes it impossible for people to undertake any outdoor work during certain months of the year and in these months they necessarily follow occupations which can be pursued without much moving about.

Of the subsidiary occupations of the people, none is more important or more popular than spinning wool for domestic consumption. Every family has to spin wool for its own use and wool is spun by all the members, even by the small children. A small basket is carried about containing a small spindle and carded wool. Whenever their hands are free, they start spinning with their deft fingers. The wool is collected from the sheep and goats which every family in the hills keeps for its use. They graze on the uplands during the summer and in the winter they are brought back to the village. Twice in the year, once in the month of August and once in February the sheep are sheared. The average annual yield per sheep is about four pounds of wool. This raw wool is washed in hot water and kept under water for a couple of days. It is then beaten on stones to get rid of dirt and grease and finally washed. The wool is now dried in the sun and when completely dry, it has to go through a process of cleaning and carding with a bow-like implement called *chitkani*.

Though spinning is done by men and women in Jaunsar-Bawar, weaving is not a general occupation. It is done by low caste people, professional weavers. They are usually paid in kind or in coin, whichever the people can afford. Another subsidiary occupation is provided by the ringal industry which supplies the hill people with baskets and other containers for storing the agricultural produce of the family. These are locally made by the people from ringals (*Arundinaria* species), a light species of bamboo grown in some parts of the hills. Villages which do not possess ringal in the neighbourhood procure them from those where it is grown and a regular system of barter prevails between two or more villages. Ringal is usually bought by payment in grain. The people who sell ringal get it free from the forests and charge their labour to the buyers.

From the list of occupations we have described above, it will appear that the people have not much scope to supplement their income from agriculture. The hill economy is of self-sufficing type and the standard of living in the hills is not high. The few subsidiary occupations the hill people follow do not engage them throughout the year and much of the time is spent on feasts and festivities or in travels undertaken partly of necessity and partly in connection with the important festivals and pilgrimages. The little surplus they have of agricultural produce, they either sell to the shopkeepers in return for some of their pressing necessities, such as *gur*, salt, clothes and implements of agriculture. When the shopkeepers refuse to pay the price demanded the hill men have to walk long distances with their grain put in leather bags to be exchanged for necessities or for cash. Thus the cash they get by the sale of grain is not much, for it is limited by the quantity of grain they can conveniently dispose of. When they return home with the money they keep it for future emergencies or for paying *malgoozari*. Thus money does not circulate much in Jaunsar-Bawar. The presence of shopkeepers at different centres in Jaunsar-Bawar who are mostly immigrants from Dehra Dun, Saharanpur and far off places has made it possible for the villagers to exchange their products without undertaking long journeys but the price they get in return is not remunerative. The shopkeepers who receive the produce from the villagers do not always send it to town. There is a local demand for such commodities as labourers, *thikadars* or contractors and travellers require them and find it convenient to buy them from the shopkeepers.

The Jaunsaris are voracious eaters. They take food 3 to 4 times daily, and on festive occasions they are incredible gluttons. When they are full themselves, they are magnanimous to others as well and every householder entertains his neighbours and feed them on sheep which they keep in a room and fatten on oak leaves. Wine and meat are the most popular items of their diet and all castes including the Brahmin take meat; fish is not

always available but where it is, they are no less fond of it. They take pride in giving feasts and try to excel one another in providing rich and delicious menus. Ordinarily their breakfast consists of a heavy meal of *dalpuri* or fried *puris* stuffed with *dal*. The mid-day meal consists of cakes prepared from the flour of *Marsha* or *Cholai*; the third meal is of wheat bread taken before dusk and is usually light. Some families may take the third meal before going to bed. Rice, *dal* and *shikar* form the menu of this meal. The poorer families do not get so much to eat and they take inferior food. The coarser millets, leaves of Amaranth and wild vegetables form the simple food, while rice and *urad* are considered luxuries they can ill afford. Pigs and fowl are freely eaten by the lower castes, but even the higher castes have overcome their scruples against eating poultry which they often rear themselves.

The Khasas are extremely fond of drink; they brew their own liquor and drink it to excess. On the occasion of marriage and festivals, they booze day and night. Two kinds of indigenous drinks are locally made. One is called *daru* or *sur* which is a distilled liquor, another *pakin* or undistilled. A special kind of bread is required to prepare *daru* or *sur*. Four to five species of roots (pissar, berry, athu, pepper, etc.) are powdered in an *okhli* and the powder is mixed with flour. The mixture is kneaded with water and made into wet bread. The rolls of bread are arranged in layers with *bhang* leaves placed above and below each piece and are kept in a dry place for a couple of weeks or more. Later on, these rolls are put in the sun for further drying after which they are stored in the house for future use. This bread is known as *kim*.

The ordinary bread prepared from coarser millets which is the common food of the poorer classes is broken into pieces and put in a big spherical earthen vat with water, enough to cover them. The contents of this vat are daily stirred by the women till they completely dissolve in the water. The *kim* bread prepared by the process described above, is put in this solution and the liquid is kept aside for a week or so, being stirred every day as usual. When the liquid turns sour, which it does after a week or ten days, it is distilled through an indigenous apparatus. The distilled liquor is called *daru* and is used on ceremonial occasions, feasts and on festival days.

The other kind of drink is prepared out of the flour of *jhangora* (a kind of inferior millet) which is mixed with water and allowed to stand over for three months or more. After this period *kim* bread is added to the mixture and the contents stand for another fortnight or so. It is then strained and kept for the daily needs of the family. The precipitate is made into cakes and eaten by the people.

Elaborate methods of preparing food are found in Jaunsar-Bawar. Not only do the people take a large quantity of food,

they know also how to cater to the palate. There are more than a dozen varieties of bread made and each festival has its own kind. From the list of festivals in Jaunsar-Bawar it appears that many of these are associated with particular processes of preparing food and the distribution of the same to friends and relations forms the main function of many festivals. Besides the ordinary kinds of breads described above, they prepare a kind of bread known as *sira*. This is made in the month of *Pous* on the *Sira* or *Siriya* festival day. *Urad* and *masur* are soaked in water, the husks drop off and the soaked pulses are powdered and made into a paste with water. This paste forms the stuffing of bread and when the rolls are baked they become extremely delicious. Another delicious dish is prepared by roasting lumps of kneaded flour. These are wrapped in covers made of leaves put in the oven and when all the leaves have nearly been burnt in the process, the roasted mass inside the cover is ready for eating. Various kinds of *halwa* are also made. Barley meal or flour of millets and wheat is mixed with water and cooked with milk, *ghee* and *gur* or sugar. This preparation can be kept for a number of days as the whole thing becomes hard enough to stand the climate. *Puris* are usually prepared during festivals and they are sent as *samun* or presents to relations and friends. *Puris* are made in the way known all over India, but a special kind is also prepared by keeping the kneaded mass of flour under water for 24 hours or more. This variety has a peculiar flavour due to fermentation.

Though the ordinary diet of the Jaunsari is simple and does not display any great originality in preparation, the various dishes they make during festivals and ceremonies are rich in flavour and in *ghee*, and they take unusual care to see that their guests, friends and relations get the best entertainment possible. Every family keeps one or more sheep shut up in the goat pen from public gaze and fattened on oak leaves. For months, the sheep remains inside the room so that even the nearest neighbour may not know what is in store for him during the annual feast to which he is likely to be invited. Superstitious beliefs are also current among the hill people about the influence of the evil spirits, the evil eye and the evil mouth and this practice is said to guarantee the safety and growth of the animals confined in the pen.

We have described at some length the economic activities of the people, the methods by which they eke out their subsistence, the hardships attending their occupations, the rigours of the climate and the attempts of the people to get used to them. We have also indicated the means of exchange and distribution, the co-operative efforts willingly undertaken by the people for the common good of the village or a group of villages, the skilful devices with which they face nature and her niggardliness. We have also described incidentally their attitude to

life, to their friends and relations, to the environment in which they have grown up. The descriptive account given above may give an impression that life in the cis-Himalayas is not so full of hardships, but as we shall presently see the account we have given does not imply that the average Khasa family is well off economically.

As money does not circulate much in the hills, as the volume of exchange done by money is insignificant compared even to that obtainable in the rural parts in the plains, the standard of comforts enjoyed by them is not very high. The average family is inured to a hand-to-mouth existence and the expense on food and feasting is the only accountable use they make of their yield from the fields and of any supplementary income they may secure. The construction of shelters for the family and the decoration of their persons exhaust all the reserves they possess. As their resources are meagre, life is pretty hard for them in these cold regions. The gods they own are not always sympathetically disposed towards them, for reward is not proportional to effort. By tradition, their gods are known to be restless, like the palanquin in which they are ceremonially carried every year, turning this way and that, swaying to and fro. One year the Jaunsaris get a bumper yield from the fields, in another year they have nothing at all. Nature in these cold heights often conspires with the gods of their own make and shows her tooth and claw in the niggardliness of her favours. Yet the small terraces are carefully worked, water is brought from higher levels by ingenious devices and perfect husbandry of manure, water and rotation of crops is effected.

People have to keep cattle and sheep. The grazing of cattle and sheep on the slopes of the hills and on the higher altitudes keeps the men busy during the major part of the day; carrying dung and other manures from the grazing areas to the terraced fields is exacting labour; the shearing of wool, spinning and weaving have to be done by themselves, the marketing of produce and barter and exchange require co-operative effort while ceremonial undertakings and festivals require joint effort and voluntary subscriptions to the common pool. Thus life in Jaunsar-Bawar is full of hardships and had it not been for their joint family institution, the fate of the Jaunsaris would have been very much different as they themselves would tell you.

Social Structure

The social structure in Jaunsar-Bawar is characterized by a dual organization of economic classes, viz.: the Zemindars and the artisans. The latter, however, should not be confused with similar groups in the plains, for they are recruited mostly from the aboriginal substratum and mostly belong to a group known by the generic name of Dom. Whereas in the plains the artisan classes own land and when they do not, they have the

right of use, in Jaunsar-Bawar the local code forbids a Dom from holding land either as tenant or as Zemindar. On the lowest rung of the economic ladder, is the domestic Kolta who is the hereditary hewer of wood and drawer of water. He does not own any land, lives attached to his master, the Zemindar, and is given food and drink by his master. He lives in a house provided by his master and his expenses, if any, are borne by the latter. Anything other than food, and clothing, if provided by the family retaining him, is converted into a cash advance which he has to pay back should he wish to change his master or seek some other employment. The expenses of his marriage, of a death in his family, of any ornaments he wants to make for his wife and all that he spends at festival time or for propitiating the evil spirits and gods who meddle with his life and happiness, are borne by his master and the debts he owes on these accounts mount up till his future and that of his progeny are mortgaged indefinitely without any prospect of redemption. When he works in the village, he is given some bread in the morning and when he returns from the field in the afternoon, he gets either cooked rice or a measure of *cholai* or *marsha* out of which he prepares cakes. When he goes with the cattle for grazing on the hill slopes he has to remain for days there and his supply consists of the coarser millets such as *jhangora* or leaves of the Amaranth, which are boiled with lentils or a little rice. His house is within a reasonable distance from that of his master so that he may be available whenever required. If he is married, his wife has certain duties allotted to her and often has to drudge to earn her food.

Higher in rank are the *Lohars*, *Chamars*, *Odhs* or carpenters, who are requisitioned to serve the higher castes and whose remuneration depends on customary laws and not on the nature of the job or the demand for it. Next come the *Bajjirs* (musicians), barbers and a few others whose right to hold land on their own account is not openly challenged by the Zemindars but who commonly live on the customary dole offered by the villagers and traditionally prescribed for them. The blacksmiths, for example, get sixteen seers of grain for each plough, shoemakers, sixteen seers for each man and eight seers for each woman and barbers five seers per head, paid twice in a year, at harvest time. In return for such gifts, these artisan classes serve the village by providing music on ceremonial occasions and doing other kinds of service as may be needed of them. Then come the Rawats who are of Rajput or Khasa origin. They hold land and also work as labourers in the forests and even go to Chakrata or Kalsi in search of employment. The Rawats in Jaunsar-Bawar are said to have immigrated in recent years and they are believed to be descendants of the Gharwali colonists.

The Rajputs form the most important numerous social group in these parts. They do not speak western Hindi which

is spoken by the people of the Dun district. Their language is called Jaunsari which is a dialect of the Central *Pahari*. The Brahmins are not of superior cultural stock nor have they maintained their endogamy. The *Gangaris* are the most numerous among the Brahmins. They are a regional group including as it does all the Brahmins who dwell by the Ganges river. They practise polyandry like the Rajputs and other castes of Jaunsar-Bawar and are called Zemindars. Where there are temples, as for example, in *Lakha*, they divide the duty of the priest's function of officiating in the temple among themselves and each family living in the neighbourhood gets a share of this duty by turn. Very few caste restrictions are observed as far as interdining or commensality is concerned, but where there is a village well, the Brahmin does not allow others to draw water or fill their pitchers or *gharas* from the well. The Brahmin comes at particular hours, and all those who want water get their vessels filled by the Brahmin. This duty of the Brahmins is also distributed among the families and in return for this service, the families who get it, offer some remuneration, in kind at harvest time. Another section of Brahmins in the hills are known as the *Sarolas* who occasionally emigrate from Jaunsar-Bawar and work as cooks in various parts. These observe certain rules regarding interdining and ceremonial purification and abjure meat and wine but they form a comparatively small group.

The territorial unit in Jaunsar-Bawar is the village. Each village has a headman or *Sayana* who is not the elected chief. Originally he was nominated by the *Sadar Sayana* but his office today has become hereditary and he is subordinate to the *Sadar Sayana*. Remnants of a feudal system are still discernible in the tenures of Jaunsar-Bawar. The *Sadar Sayana* who was in earlier days known as *Thokdar* is the overlord and is responsible for the management of the *Khat* or *Patti* and he represents his *Khat* in all its relations with the local administration. The *Khasas* are believed to be immigrants in Jaunsar-Bawar. They appear to have come in nomadic hordes each under a *Thokdar*. The families which constituted the nomadic group settled down in different villages but acknowledged the authority of the *Thokdar*. The villages, which remained under a *Thokdar*, were bound by certain obligations to the latter. His importance as leader of an immigrant horde was recognized by the villages and he received many services and dues from his party men in the shape of gifts and customary dues payable to him on important occasions and festivals. Each family had to give twelve days' free labour in a year to the *Thokdar*. When a child was born in a family, the *Thokdar* received a gift, when a girl was married, he received something; when a new house was built, he was offered a present by the family concerned. When a sheep was killed by a family, one leg was sent to him. In return

for these considerations or tributes, the *Thokdar* looked after the interest of the villagers in his *Khat* and organized defence against raiders, settled disputes as arbitrator and undertook to defend the rights and privileges of the families owning allegiance to him. To-day the *Sadar Sayana* or *Thokdar* does not wield much influence and the village *Sayana* has asserted himself and has secured greater rights and privileges than were enjoyed by his predecessors.

The village community consists of a group of proprietary cultivators, these are known as Zemindars. They are also called *Mauroosi* cultivators as opposed to *Gair Mauroosi* or under cultivators. The latter cannot alienate the land and are to all intents and purposes tenants. When they give up the land, it reverts to the proprietary body and when the Zemindars give up their own land, the co-owners exercise the right of pre-emption. The Zemindars are Khasas who cultivate their own holdings themselves with the help of a number of agricultural serfs called *Koltas* whom they maintain and who can demand to be maintained by them.

The political importance of the *Thokdar* was immense in earlier days and the control he exercised on the people of his *Khat* was a matter of great concern to the administration. In the native States where the system was more developed, political expediency necessitated the divesting of some of the rights and privileges of the *Thokdar*. Tactless handling of the situation led to trouble in some States but with the gradual tightening of central authority, the *Thokdar* lost much of his pristine status, and today he is not a force even in his own *Khat*. Bereft of his political authority, he is still an important link between the village headman and the administration and has been used to the advantage of the latter. With the weakening of the hold of the *Thokdar* or *Sadar Sayana* the *Khat Panchayet* consisting of the *Sayanas* of all the villages in the *Khat*, over which he presides, has lost its jurisdiction and influence and disputes between two villages are not usually referred to the *Khat Panchayet*, but are settled by the *Panchayets* of the two villages concerned.

The village *Panchayet* is a body of three to five persons presided over by the *Sayana* who is the *Sir Panch*. The elders who constitute the *Panchayet* are drawn from elderly men, selected for their tact and experience. Knowledge of men and matters, sojourn in foreign lands and experience as functionaries of the Government in some capacity or other, are some of the necessary qualifications for membership of the *Panchayet*. This organization is more or less permanent without any recognized constitution or procedure. Its proceedings are informal and it meets whenever there is an occasion to do so. The *Panchayet* acts as an arbitrator in disputes and its machinery is successfully utilized to organize periodical festivals, fix dates

of ceremonies, collect subscriptions for such purposes, look to the supply of water for the village and for irrigation, to supervise the morals of the villagers and to assist the village headman in the discharge of his duties and responsibilities. In one case, which was decided in our presence, a girl was betrothed to a young man by her father and the latter received a *Tando* or earnest money of Re.1. A few weeks later, there was an altercation between the bride's father and an uncle of the bridegroom-to-be, and the former called off the match and married his daughter to a third party. The *Panchayet* of the *Khat* was informed and the father of the girl was fined sixty rupees and was asked to give a feast to the aggrieved party, and the *Panchayet*. If a *Kolta*, *Chamar* or a member of an artisan caste is found to elope with the wife of a Rajput or a Brahmin, exemplary punishment is meted out to the man and anybody who harbours the couple or aids them is severely punished. A heavy fine or *har* is imposed by the *Panchayet* varying from Rs.125 to 300 or more, and this amount when realized from the offender is divided equally between the aggrieved husband and the members of the village. If the offender does not pay up, the couple must leave the country. If, however, the man who elopes with another man's wife can prove his previous intimacy with the girl, the amount of the fine is reduced considerably. When a person belonging to the higher castes seduces a woman of similar social status, he has to pay a fine of sixty rupees only. A low caste man who commits such a crime can be kept by a *Khatdar* on payment of a *wergild*. Crimes such as the theft of sheep, goats, etc., are usually dealt with by the *Panchayet* and if the culprit is traced, he is asked to make good the theft and pay a fine. In a case of theft in the village of *Jadi*, the thief who stole a goat was asked to pay back five goats of which two were given to the owner and the remaining three to the *Panchayet* and the village, who celebrated the occasion with a good feast. Whenever any partition of property is made by the *Panchayet*, the *Sayana* receives as his share, one sheep, one goat, one metal utensil, one weapon and five rupees. The *Panchayet* receives five rupees and the villagers two rupees but in the case of poor families, the fees are considerably reduced and sometimes no payment is made to anybody.

The *Khasas* are a patrilineal people with patrilineal inheritance and patronymic designation. Each village stands as a social unit and is usually exogamous. The joint family system prevails. A group of brothers live together with one, two, or more wives under the same roof, the brothers sharing the wives in common, without exclusive rights of cohabitation with any one wife. The eldest of a group of brothers wields a dominating influence in the domestic affairs of the family, he is the social as well as the ceremonial head of the family. It is to him the other brothers have to turn for advice and guidance.

He determines the duties of the brothers, provides the necessities of the family, and the rest of the brothers have to obey him, and to hand over to him their individual earnings. If a brother wants to marry any particular girl of his choice, the eldest brother goes through the ceremony of marriage with the girl and he may assign the bride to the particular brother concerned. If there is a dispute between two brothers and it may occur on account of rivalry and jealousy between them, the eldest brother arbitrates and his decision is final. If he asks the common wife not to bestow her favours on any of the brothers, the aggrieved brother has no appeal to any higher body in the village. Society upholds the dignity of the eldest brother. The alternative is chaos which the society dare not encourage. The children of the joint family of a group of brothers are maintained by the family and paternity is decided by a useful convention. The eldest born child is fathered upon the eldest brother, and the next child on the second and so on. In case of a dispute between brothers, which may arise when one of the fathers wants to live apart and start a new establishment, the joint wife may be asked to name the fathers of her children—alternately the husbands of the joint wife may draw lots to determine paternity of children born to the family. If four brothers have one wife between them and four or five children are born, and one of the younger brothers marries again, the children usually remain with the woman and the latter is not allowed to go to the younger brother. She must live with the other brothers but the children are entitled to equal shares from all the brothers including the youngest. If the other brothers wish to separate, the eldest brother has to bear the expenses of their marriage as well.

Customary laws in Jaunsar-Bawar make the eldest brother receive the lion's share of the property when partition takes place. According to the laws of inheritance in force, property is divided in the following manner:—After deducting one thing of each kind and one field for *pitans* or *jethong*, viz., on account of seniority, and half of that field, viz., *kanchoo*, for the youngest, the rest is divided equally among them. The family house in Jaunsar-Bawar apparently belongs to the eldest brother, the crops are his, the cattle and sheep are owned by him and the wife and children and their maintenance and control are his. He is the governor of the family and his brothers accept his rule and authority without a grumble. Cases have been found when a younger brother has rebelled against this social and economic monopoly, has forced the elder brother to a partition of the family property, or to the granting of exclusive right of cohabitation with a particular wife, but to the extent he gains individual rights, he loses social prestige and very often his wife deserts him afterwards. It may sound strange to a capitalistic society, but it is a fact that if a man happens to be the only son of his

parents, he stands little chance of securing or keeping a wife, for a wife would not care to live with one man as she would have to do much work for the family. He must, therefore, find out his cousins or collaterals before he decides to marry and settle down.

The custom which allows such a privileged position to the eldest brother has no little influence on the familial relations in these parts, and it is no wonder that the eldest brother wields such great authority in the domestic economy of Jaunsar-Bawar. Complaints against the behaviour of the eldest brother are infrequent and if they arise, they are not viewed with equanimity by the village elders. The individuality of the members in a joint family is thus circumscribed by the traditional loyalty to the head of the family, demanded of them. Besides this attitude of loyalty to the eldest brother, there are other considerations which make partition of property extremely uneconomic as we have already referred to.

Cultural Life

The culture of the Khasas of Jaunsar-Bawar has been deeply impressed by their contacts with the Doms or the aboriginal element in the population. The Doms belong mostly to the Austric race and their cultural life greatly resembles that of the various tribes of Pre-Dravidian or Australoid origin. While the Khasas claim to be Hindus and recently they have been fast adopting Hindu surnames and trying to establish connection with the Rajputs and Brahmins of the plains (their contacts with the outsiders have taught them the importance of their claims), their social life as well as their beliefs and practices connected with their religion do not identify them with the Hindus of the plains. They remarry widows, practise levirate, sororate and polyandry, recognize divorce as legal, while intermarriage between the various Khasa groups is not tabooed and children born of such marriages do not suffer any social stigma. While they worship Hindu gods and goddesses, they have a partiality for ancestor spirits, queer and fantastic demons and gods and for the worship of stones, weapons, dyed rags and symbols. On the other hand, their customary rites in the temples, the manner and mode of offering sacrifices the daily religious performances in the temples, the dim lighting, the burning of incense, the mysterious incantations and sing song monologues, all indicate Hindu origin, tradition in ritual and temple worship.

The sun, the moon and the constellations are their gods. The sun is male and the moon female. The moon's pride on account of her greater beauty and her insulting behaviour towards the sun on that score, provoked the latter's wrath and his curse had the effect of disfiguring the moon's face resulting in spots which are said to be marks of leprosy to which the people are often victims. The Hindu belief that the earth rests

on the head of a snake, *Sheshnag*, finds its counterpart in Jaunsar-Bawar and earthquakes are believed to be caused by the periodical movements of the giant snake. The Mundas believe that eclipses of the sun or moon occur when their creditors surround the sun or moon for the debts of the Mundas and this represents the typical belief about eclipse among all the Austric-speaking tribes in India. Among the Khasas, the sun and moon are said to have borrowed money from a Dom, but the interest swelled to such an amount that it could not be paid and the debt was repudiated. The Dom on that account worries them often by throwing a skin on their face. Though the average Khasa is always in debts, the stigma attaching to persons of higher castes who borrow from the Dom is great in Jaunsar-Bawar, and the elders belonging to the higher castes do not tolerate such practices in the village. The customary raising of *menhirs* and other stone memorials among the Khasas appears to be a relic of a megalithic cult which is an important phase of Austric culture. The Khasiyas appear to have in all probability, borrowed this custom from the aboriginal element in these parts. It is customary to construct a terraced platform near a public thoroughfare on which they place a single upright stone to commemorate the dead.

The belief in the transmigration of souls and in the doctrine of metempsychosis is an important feature of their religious life; they believe that the soul has to pass through as many as 84 lakhs of forms including animals and insects and the activities of man on earth are carefully recorded by *Yama* whose messengers have to present the souls before him. As *Dharmraj*, *Yama* determines the form which a particular soul should pass into, in accordance with its activities on earth.

Their religion is a curious blend of Hindu and tribal beliefs and practices and a functional analysis of these is sure to provide interesting materials. Nowhere perhaps are magic and religion so closely interlaced and interwoven as in Jaunsar-Bawar. Magic plays an important rôle in the life of the hill people by giving them confidence in danger and crisis, and by providing the incentive to organized undertakings. Not only in the main occupations of the people like agriculture and lumbering, in ordinary day to day life, magic is potent and effective. The importance of the evil eye and the evil tongue is recognized by the hill people and oaths and ordeals have a significance hardly paralleled in savage society. It is possible to effect injury to person or to cattle or both by magical practices, to cause death in a family by mere swearing as they believe, and to cause houses to be burnt by magic. The courts of justice recognize the importance of oaths and ordeals and when the necessary evidence in a civil case is not forthcoming the parties are allowed to decide the issue by means of oaths and ordeals. In some cases, the defendant in a money suit will keep the sum of money

before the image of the goddess *Kali* or in any temple dedicated to *Mahasu* their great god and the plaintiff is asked to take the money. Should the defendant want to prove that the money he owes has been paid by him, he drinks the water in which the feet of the *Devata* are dipped and this is taken as evidence to the effect that the money has been paid by the defendant. In other cases, the plaintiff will light a lamp in a temple and the defendant has to put it out proving thereby that he has paid the amount due from him. If a villager bears a grudge against his neighbour and he wants to harm him or his effects, he takes a clod from his field and lays it on the altar of *Mahasu*, and prays for an immediate judgment. Should this neighbour meet with any accident or domestic trouble, he would leave his field as otherwise the god invoked by his enemy may cause greater calamity to befall on him. The consequence of dishonesty and false statement on oath is terrible as the person is sure to be affected with insanity or leprosy, or some great calamity may occur in his family, or he may die an unnatural death within a short period from the commission of the offence.

People who are notorious for their wickedness are supposed to possess some power either inherent in them or derivatively acquired. For example, they are known to abuse people and swear against them on the slightest or no pretext and the belief is that such persons can do harm as their *Ghat* or swearing is usually very effective. There are certain gods whom wicked and antisocial people usually invoke to effect their nefarious designs on others. One such evil spirit is *Narsin* who is extremely mischievous and is readily invoked to harm or destroy cattle and crops and to afflict people with diseases. The *Baki* or diviner has to get in touch with this spirit and propitiate it whenever it is suspected of evil. Though it is a criminal offence in Jaunsar-Bawar to call any person a 'witch', it is common knowledge in these parts that witches exist, and whenever any person meets with any misfortune or contracts any serious illness, the members of his family may suspect any woman, young or old, to be responsible for it and she is dubbed a witch. Henceforward, she becomes an object of close attention in the villages and her family is branded as antisocial and consequently segregated from the other families in the village.

The incidence of infant mortality is pretty high in Jaunsar-Bawar, and it is traced to the influence of certain evil spirits. These are always after children and women in the family way and their attention is followed by disease and death to their victims. There are people specially versed in spirit-lore who utter magic words and blow ashes over the child or woman believed to be affected by spirits and this is considered potent enough to cure the affliction. When a pregnant woman falls ill, it is believed to be due to the mischief caused by certain evil spirits and the woman has to undergo a course of treatment

prescribed by the *Baki* or *Ghadiala* (witch-doctor). With her hair dishevelled and forehead painted lavishly with vermilion she is made to sit near the witch-doctor. The latter takes a bell-metal plate in his hand and starts beating it to tune, uttering simultaneously a number of incantations in a peculiar singsong tune. After half an hour or so, the woman feels heavy, starts shivering indicating thereby that the spirit has entered her person. The woman shows signs of greater animation and moves her limbs to and fro, attempting to rise on her toes and eventually starts dancing to tune of the bell-metal music. Soon she forgets herself, her husbands and relations, and is metamorphosed as it were into the spirit which has taken possession of her. The *Ghadiala* addresses the spirit in the woman and the latter answers on behalf of the spirit. The source of the attack, the name of the spirit, the necessary offerings and sacrifices that would please it and any particular direction as to the manner and mode of disposal of the offerings are mentioned by the possessed woman and it is believed that as soon as these are offered as directed, the woman gets rid of the spirit possessing her. The spirit, however, leaves the victim in a spectacular manner. The woman shrieks, or strikes herself with some stick, or makes violent attempts at escape and is often forcibly brought to rest by the people present. This and similar practices show the extent of the influence of tribal beliefs and practices on the cultural life of the Khasas.

When epidemics invade a village, the resources of the village are freely requisitioned by the headman concerned and custom prescribes an *Astabali* or sacrifice of eight lives to appease the godling of disease. Five different approaches of the village are selected for the purpose and at each approach an improvised gate of bamboos is made. At the centre of each gate is fixed the wooden effigy of a monkey and a vertical slab of stone or menhir is firmly fixed in the earth. The menhir is crowned with a large round stone and two pieces of wood with flattened ends are tied on either side of the upright slab, the whole resembling a human figure from a distance. Five different sacrifices are offered at the five approaches to the village. At one, a goat is killed and buried near the menhir, at the second place a sheep is similarly sacrificed and buried. A hen, and a pig are sacrificed at the third and fourth approaches respectively, while at the fifth, they cut a pumpkin into two halves and bury it likewise. After the sacrifices at the selected places, the villagers all assemble in the yard of the temple where a sheep and a vegetable (*Gindoro*) are offered as sacrifice. The *Gindoro* is cut into pieces and the sheep is killed and given to the Doms. A goat is sacrificed in the name of the village and the meat is distributed among the villagers. The elaborate rites of *Astabali* are performed only when a major calamity is feared and the efficacy of this prescription is seldom questioned by the villagers. The village priest

is in charge of this sacrifice and he cites hymns and prayers as well as magical incantations to invoke the aid of the gods.

They do not appear to be much concerned with rewards and punishments in the world to come but they observe a code of conduct which, if followed, is believed to pave the way to a prosperous life in this world and uninterrupted bliss in the next. These refer to their food, sleep and sacrifice. They must not drink pure milk and they should abstain if possible from butter as it may better be burnt in the temple of the gods. It is on ceremonial occasions and festivals that they may eat butter after it is dedicated to the gods as offering. They should offer the best sheep or goat to their gods as sacrifice and they should not sleep on beds with four legs, usual practice in Jaunsar-Bawar is to sleep on the wooden floor.

The principal occupations are safeguarded against interference by the forces of evil which people their imagination by a system of protective and productive magic. It is true that the efficacy of these magical rites is being minimized by the people but this has not caused any serious challenge to the traditional code of conduct so far as it relates to the observance of rites of protective magic. Magic embraces practically all spheres of activity. When they build a new house, they have to protect it from destruction by fire, or from calamities that may fall on the inmates, and the usual practice is to sacrifice a goat or sheep to the evil spirits and the blood is sprinkled round the house. When the bridegroom comes back home with the bride, before the couple is allowed to enter the house, some relative, usually the maternal uncle, throws down from the roof of the house a live sheep in front of the couple below. The relatives and friends of the couple tear pieces of flesh and bone from the animal and there is a scramble among them for the heart and liver of the sheep—which when eaten raw, ensures good luck to the eater. The bride and the bridegroom are then allowed to get inside the house.

When the harvest are brought home or the first sowing takes place, the evil spirits are propitiated by individual families while a common sacrifice is made by the village to undo the evils of magic. Human sacrifice is non-existent, but the efficacy of it in theory is not denied by the Khasas. The custom of rope dancing which formed an important annual festival in these parts has become obsolete as it has been forbidden by the administration on account of the risk to life involved in the process, but in times of agricultural calamities occasioned by the vagaries of rainfall or by insect pests and diseases to crops and cattle, they remember the olden days when the annual *Bedwart* (rope dancing) provided the necessary safeguards against such supernatural visitations. Even today in Rawain, a neighbouring State, *Bedwart* is allowed to be practised under

police surveillance as the people have made repeated representations to the State authorities not to interfere with the age-old magico-religious practice. The failure of rains and harvest they trace to the non-observance of their magico-religious practices and the State had to yield to their persistent demands. The *Bedwart*, as was practised in earlier days, was a cruel custom as it subjected the *Beda* or dancer to physical violence. Originally, a lengthy piece of rope stoutly made was tied to two peaks of unequal height and the rope was greased for days and weeks to allow the *Beda* to slide smoothly from the higher to the lower end of the rope. The *Beda* after a ceremonial bath, was seated at the highest end of the rope and was given a push and the greasy rope did the rest. The *Beda* glided down the rope at a terrific speed, somehow clinging to it, and the vast crowd gathered to watch the ceremony broke into loud cheers as the *Beda* approached the end of the lower peak. If the *Beda* accidentally missed his hold of the rope, it was fatal for him, for he would certainly dash against the ravines hundreds of feet below and be shattered into fragments. If he succeeds, as he usually does because it is undertaken after long preparation and practice, he loses his hold of the rope immediately before he reaches the other end, and drops down into the arms of a receptive crowd who carry him on their heads and move with him through the crowd. The piece of cloth or rag he puts on is torn to shreds by the crowd and each man keeps a thread or two from this cloth as protection against natural calamities and as a sign of good luck and prosperity. In the scuffle that ensues to secure this luck, the *Beda* loses not only his cloth but even tufts of hair from his head and may receive even serious injuries. Other magico-religious rites include naked dances before sowing, during the growth of the crops and after harvests. Playing with red hot iron rods, swallowing burning charcoal and such other ordeals are some of the other precautions designed to safeguard their material prosperity and domestic bliss.

The Family

The typical Khasa family consisting of a group of brothers as husbands with one, two or more wives and children represents a social and not a biological group. The father is not the physiological father but functional in the sense that children address him by his functional name as for example, father-who-looks-after-the-house, father-who-tends-the-sheep, father-who-grazes-cattle and so on. The close tie between the child and mother that we get in a stable monogamian family cannot develop in a polyandrous society of the type we get in Jaunsar-Bawar. The frequency of the practice of *Chhut* or divorce makes the wife a loose unit in the family and she changes her affiliation pretty freely. The care and maintenance of the children therefore devolves on the group of fathers, particularly

on the head of the family and it is the duty of the latter to see that the children get the proper attention and necessary instruction in the formative years. The mother has to perform her duties and comply with the obligations of motherhood so long she remains a member of the family and conforms to the rules of residence customary with patrilocal groups. But as she migrates periodically to her parent's village at harvest time and during the festivals, the children do not get her company throughout the year. The normal socio-psychological association between mother and child cannot develop on account of frequent interruptions by these voluntary migrations. The novel situations arising out of customary participation of the people in fairs and festivals, the variety of interests they stimulate and the scope they provide for satisfying the genuine curiosities of children lose much of their significance in shaping the mother-child relationship. The importance of these casual migrations of young married women to their parents' village will be realized when it is known that in the villages we investigated most of the married women between the ages of 15 to 35 were absent and women of the same age group belonging to the village but married in other villages replaced them as domestic help and farm hands during the harvesting season. Women above 35 and those whose psycho-sexual life has lost its intensity of exuberance and women who are sick or diseased do not move from the village and they with the girls of the family manage the household and care for the children. This seasonal interchange of women between villages has a number of advantages for a polyandrous community. Firstly, it allows a release of tension in sexual life for with the return of the girls of the village to their parents' house and the absence of the wife or wives from the village, opportunities for extra-marital relationship increase and intrigues within the village are possible without a disturbance of normal wedded life. Secondly, the periodical return of the girls of the family reduces the instability of the family relationship in the event of wives leaving the family permanently, and ensures continuity of economic existence of the family. Thirdly, the seasonal residence of the wife in the husband's house and periodical migration to her parents, the knowledge of the two standards of morality enjoyed by women in Jaunsar-Bawar, and the possibility of easy *Chhut* while reducing the sanctity of marital obligations also temper marital jealousy.

In a polyandrous society, in order that social life may run smoothly, marital jealousy must be absent, and this is so in fact, we are told by competent authorities. It is true that when several brothers share one wife the brothers must not quarrel over her, and custom and tradition determine the attitude of the brothers to one another and to the wife. The importance of the eldest brother or *Jeth* among the Khasas generally and in Jaunsar-Bawar particularly has greatly minimized marital

jealousy as it is not usually possible for the other brothers to possess the wife sexually so long the eldest brother resides in the house. In practice, however, the eldest brother does not exercise this sexual monopoly and his frequent absence from the house provides the necessary transference of sexual rights to the next of the brothers. Besides, the disparity in the age of the brothers makes it possible for the elder brothers to secure to themselves the right of cohabitation till the younger brothers come of age and in ninety cases out of a hundred, a second wife is taken in the interest of the younger brothers. But jealousy between brothers for the affection of a common wife is not rare and manifests itself in the demand by the husband concerned for better attention to his needs and comforts. In such cases, the wife, if she is clever, manages her obligations to the satisfaction of the husbands concerned. If she does not, quarrels do take place and the eldest brother may order a dissolution of the marriage. While quarrels between brothers are obviated by customary rules of conduct as described above, those between co-wives are of frequent occurrence. Unless the second wife happens to be the sister of the first as is very often the case or someone in whose selection the first wife had a voice, no second wife can be taken while the first remains in the house. She must be divorced before another wife can be brought in. Thus the wife's sister is normally preferred to others as a second wife in Jaunsar-Bawar. When they get a second wife, precautions are taken to see that quarrels between co-wives may not occur too often and magical rites have been introduced to remove the shadow of misunderstanding. When a second wife other than the sister of the first one is taken, an interesting ceremony is gone through. The second wife is made to sit in one corner of the room, the first wife sitting opposite to her while an elderly woman with a lighted *dip* in her hand stands by each of them. Another woman stands in the centre of the room and joins their hands and each gives the other a silver coin. The *dip* is held in such a way that the shadow of the one does not fall on the person of the other.

Marital Life

Marriage in Jaunsar-Bawar takes place early in life. Between the ages of 2 to 10 years most of the girls are married, though this does not mean that cohabitation follows earlier than in the plains. From the cases we have noticed of girls proceeding to their husband's village for residence for the first time, it does not appear that the girls have to do so before they are seventeen or eighteen and this is a fair arrangement as puberty sets in later in a cold climate. Occasionally, however, a girl of 8 or 10 may come to live with her mother-in-law for a couple of months or so and assist her in her domestic obligations, but such residence has not been abused by the husband or group of husbands.

Besides in the case of a first marriage, the bridegroom also is of tender age and the possibility of an earlier consummation of marriage is remote.

When a son is to be married, the father approaches the girls' parents and asks for the girl. If the father or guardian of the girl satisfies himself as to the suitability of the marriage, he may demand the nominal bride price which is usually one rupee. The Pahari Brahmin then decides the date of marriage. On the appointed day 2 to 8 persons from the bridegroom's village come to the bride's house and are cordially received by the bride's people. The party is entertained to a sumptuous feast and the villagers get up a dance in which the party from the bridegroom's village take part. Next morning a hundred to two hundred persons proceed with the bride to the bridegroom's house singing and dancing all the way till they reach the outskirts of the village, their destination. All the villagers, men, women and children, assemble there to receive the guests and lead them to the bridegroom's house where they take care of their guests. A heavy menu at dinner with a large quantity of liquor served before and after the meal, a gala dance in which people from both sides take part, continuous singing by the women, the tom tom of drums, on either side, and sometimes a hunting excursion to the forest nearby, all make the ceremony a memorable event. Poor people cannot entertain their guests on such a large scale and the people who participate in the function from the village of the bride as well as those from their own village provide the necessary assistance for the family concerned in the shape of gifts which consist of rice, flour, *ghee*, *gur* and sheep or goats.

In the case of poor families, however, it is not possible to invite every villager to the feast. So one person of each family is invited to join the festivities and to give the ceremony a representative character. Even then the village acts as host and all the necessary arrangements are made by the villagers whether they are invited to the feast or not.

The ceremony of marriage is extremely simple. The Pahari Brahmin puts a *Tilak* of *Pithain* or vermillion on the forehead of the bride in the bridegroom's house and on the bridegroom's forehead in the house of the bride. He also cites some *mantrams* in the presence of the couple while he may, if he is asked, sacrifice a goat in honour of the great god, Mahasu, to whom he prays for prosperity and happiness for the couple. Before the food is sent to the guests, a plate of it is offered by the priest to the village god. This is obligatory on all occasions of feasts and festivals in the village.

Besides the ceremonial gifts of a rupee, the bridegroom's people may and very often do pay a small sum to cover the expenses of the bride's parents. Where the financial and social status of the parties differs, as for example, when the bridegroom

is not well-to-do and the bride's parents are, or when both the parties are well off, the bridegroom has to pay some money as bride price. But this amount need not be paid all at once. Half the amount is payable before marriage and the other half after the woman has proved her fertility. This amount is not paid if the woman after marriage proves barren. Barrenness is a frequent complaint in these parts and a husband who has paid a big sum as *Jeodhan* and has spent more on entertaining his friends and relations must be given some relief. Should the woman prove sterile, the bride's parents have to refund the other half of the dowry, and also have to receive the girl back if need be. A reasonable period after cohabitation starts is allowed to the wife to prove her fertility and if she fails to do so, she is returned to her parents and the necessary *Chhut* or divorce is obtained. Besides the fertility question, there is another practical implication of this custom, i.e. paying half the bride price and retaining the other half to be paid when the girl becomes a mother. The girl is married at the age of 3 or 4. When she grows up she becomes an economic asset. The father is reluctant to send the daughter away to her husband's village. He does not mind her licence in sexual matters so long as this is confined to the village. Intrigues with persons belonging to the same clan are not encouraged but there is not much restriction as regards those belonging to other than the clan of the girl. When the husband finds that she does not want to come to live with him, he demands repayment of bride price he has paid; of course, he takes this final step after he has tried his utmost to persuade the wife's people, for even if he has made a small cash payment he has spent a lot in kind and in entertainment.

The girl's father does not worry himself much about this demand, for if the girl is handsome-looking, she is sure to be demanded by another party who will pay the dowry back to the first husband and some amount to him as well. Whether he keeps the girl at his house or marries her a second time, he is a gainer in either case and these considerations have something to do with the many cases of *Chhut* and of strained relations between different villages. Where the girl is not handsome or does not receive proper care and indulgence in the parents' house, the parents do not prevent her going to her husband's house, for, in that case, they do not get willing assistance from her and lose the part of the dowry payable by the husband. Where there is no difference in status between the parties to a marriage, the girl is not withheld from the bridegroom's people, for unless she resides at her husband's place, she is not expected to fulfil the rôle of mother which alone entitles the bride's parents to receive the other half of the bride price. Girls even after their marriage come back to the village of their parents to assist them in field work during the harvest season and the sex licence that obtains in Jaunsar-Bawar during the festivals when even married girls

misbehave is understandable on this account. In the village of her husbands, adultery is a crime of the gravest magnitude and a wife guilty of such offence pays the penalty in no uncertain way. If she still remains in her husband's house, she is ill-treated by the family and is denied any sympathy by the village. This raises the question of morality in Jaunsar-Bawar. A woman has two standards of morality to conform to, one in her parents' house, one in her husbands'. In her parents' house she is allowed every kind of liberty and licence and nothing is an offence unless specifically prohibited. In case any child is born out of extra-marital relationship, the husbands concerned have to own it and this they do without much heart searching on account of the small number of children among the Khasas. Usually, the child is fathered on the eldest of the husbands of the woman. It was customary in earlier days, and even today it is in the interior, for girls (conforming to the social etiquette of the family) to offer themselves as bed-mates to guests of the family who may have no scruples in this matter. The rules of hospitality allow that grown up daughters of the family, married or unmarried, should cater to the comforts of visitors in every way. But a married girl in her husbands' house must observe strictly the rules of morality, must behave properly, must be faithful and loyal to the group of husbands and strict vigilance is kept on her movements by the family group as well as the village. Everything she does is considered an offence unless specifically permitted. But a wife in one village is a daughter in another and custom allows the wife to go to her parents' village where she may take advantage of this double standard of morality.

The usual explanation offered by the Khasas is found in popular sayings and proverbs which compare a girl after marriage to the carcase of an animal, so that the parents can have no interest in her after her marriage. She lives, they say, for the family of her husbands where her economic contribution is indispensable and thus her morals are no concern of her parents. How far this attitude is born of an original disgust at the transference of allegiance of the girls of a matriarchal society to a patriarchal is an interesting theme for discussion. We shall deal with this aspect later on.

Girls in Jaunsar-Bawar, as we have already pointed above, are married very early. But if the family suffers from some social stigma, or is known to have some hereditary disease, if the gods are known to have been displeased with the family, if some natural calamities had fallen on the family which could be traced to the wrath of the gods, or if the girls of the family are known to have broken faith by not going to live with the husband or husbands, it may happen that suitable proposals for marriage will not be forthcoming and the parents or brothers of the girl have to wait indefinitely for her marriage. A few such cases came to our knowledge during our investigations.

Some examples of polyandry in practice will be of interest in this connection. Hariram, *Sadar Sayana* of village Jadi, has four brothers, the youngest of whom Nain Singh is about 35 years of age. He with his brothers owns 9 acres, 3 roods, and 5 poles of land, 14 cattle and 88 sheep and pays Rs.8 as *malgoozari*. He is therefore quite a man of substance and the richest farmer in the village. Hariram married Gonga and paid Rs.60 as bride price. She proved barren and after 4 years, she was divorced and Hariram got back Rs.20 from her next husband. He married Jimuti, a divorced woman for whom he had to pay Rs.20 as bride price. Jimuti was found to be suffering from sexual disease and was divorced without any demand of part of the dowry. He then married Ashadi and paid Rs.50; she was also a divorced woman but after a couple of years, she died without any issue. The fourth marriage was with Pirudi for whom he paid only Rs.12. Pirudi is living with the family and has three children. Bipu is his fifth wife and has one son. Last year Hariram married Pusuli for whom he had to pay Rs.120 as dowry. She was divorced thrice before she was married by Hariram and has not any issue yet. Thus Hariram has married six wives one after another and between 4 brothers they have four sons.

Narayan, son of Hariram (for he is the eldest of the sons and thus was fathered upon Hariram), lives with his brothers and has married 3 wives. For the first wife Nagu he paid Rs.12 but Nagu died without issue. His second wife was Bardai who also was paid Rs.12 as bride price. She gave birth to two daughters but was later on divorced. The third wife, Chakeri was paid a dowry of Rs.120 as she was married after her second divorce. She has two sons living. Narayan's eldest daughter was first married to Jowar Singh who paid Re.1 as bride price but Pusu was divorced and the second husband had to pay Rs.240 to Jowar Singh as compensation.

Madan Singh has two brothers, Narayan and Ajmeru. He with his brothers possesses 4 acres, 1 rood and 30 poles of land, 8 cows and 44 sheep and pays a *malgoozari* of Rs.5-14. Madan paid Rs.2 as bride price and married Bardai and has 4 children by her. For the next wife he paid Rs.12 but after two years he divorced her and realized Rs.60 from the husband she married later. The third wife, Asuji had to be paid Rs.12 but she also was divorced after a year and fetched Rs.100. The fourth wife of Madan, Jamni, for whom he paid Rs.12 has no issue yet. Thus in this family 3 brothers have married 4 wives and have 4 children between them.

Amar Singh with his 4 brothers has married three wives. For the first wife, he paid Rs.50 as she was a divorced woman. After a year she was again divorced by Amar Singh and the latter received back only Rs.8. Next he married Jhani and paid Rs.10 as dowry. She also was divorced after a couple of years

and he realized Rs.8 from her next husband. The third wife is Rutu who is living with the brothers and for whom he paid Rs.50. They have a son by the present wife. Amar Singh with his brothers owns 2 acres, 1 rood and 26 poles of land, 10 cattle and 36 sheep and pays a fairly high *malgoozari* too. Thus in this family 3 brothers have one son.

Instances like these can be multiplied to show the rate of bride price, the frequency of *Reet* which combines in one transaction divorce as well as second marriage, and the number of wives and children per family. It appears from our investigation in Jaunsar-Bawar that usually the number of marriages is no indication of the plurality of wives for seldom has a family more than two wives simultaneously living together with the group of brothers as husbands. The marriages are usually in succession after the death of wife or after a *Chhut*. A *Chhut* is usually followed by another marriage. Further, the number of children in a polyandrous society is very low, for 4 to 5 brothers between them possess 3 to 4 children and sometimes less. Another fact which is extremely significant is the number of barren women. A husband waits 2 to 3 years to see if the wife provides any issue. If she fails, she feels that she is not much wanted in the family and thus she seeks a new home. If she is not wanted in the house, if she is lazy, or suffers from some form of sexual disease which is fairly common, or if she is guilty of some grave misdemeanour, such as her unwillingness to cohabit with the eldest husband, so long as he remains in the house, she is divorced and the next husband of the woman has not to pay any big sum as dowry for her. But if she wants to leave her husband herself and if she does not suffer from any disease or has already proved her fertility, the husband usually demands an exorbitant price from her fiancé, and this amount must be paid by the latter if he wishes to marry her. In such a case the larger the number of *Chhuts* a woman goes through, the higher the bride price she fetches, for the bride price must provide for compensation to the previous husband and his family.

It is easy to marry a girl of 10 to 12 years and one need not pay any but a nominal bride price, but a woman, who has been divorced thrice or four times, fetches a handsome dowry. A woman of 45 in Bangar village, with 4 *Chhuts* to her credit, was married by her fifth husband on payment of Rs.285 which may sound ridiculous when a girl of 15 or 20 can be married on payment of Rs.20 to 30 only. Investigations have shown that this woman has given one or two issues to every family she was affiliated to by marriage, and as children are very much desired by the people, a woman who has proved her fertility is at a premium. Considering the number of barren women, a woman who gives evidence of her fertility in one family is desired by others so that she chooses to change her husbands whenever opportunities present themselves. Besides with four

to five husbands to cater to, her affections may not be fixed on any, thus her change of family does not produce any great psychological reaction which one would normally expect in a monogamous family. The licence permitted to the girls while they live with their parents, the indulgence they receive from the society, the annual sojourn of married girls in their parents' village during harvesting season and also during festivals, uphold this laxity in morals.

In one of our village surveys in Nada, we were met with many requests for medicine to cure barrenness and we made a house to house inquiry to determine the extent of this disability. The figures we collected were indeed staggering and I should think that along with any scheme of economic uplift a health survey should be immediately undertaken to examine the causes of sterility in the women of the area. Some primitive tribes in India allow premarital licence and women are known to take recourse to indigenous medicines to avoid the consequences of irregular unions and the effects of such nostrums have been manifest in the increased incidence of sterility among them. How far such practices are responsible for barrenness among the hill people affords a subject for inquiry. Besides, in the hills, particularly those in the neighbourhood of cantonments, incidence of sexual diseases is greater than anywhere in the plains and a medical inquiry in the villages of this region will be of great help in determining the extent of sexual disease.

We have said that polyandry is the common form of marriage among the people of the Himalayan region. It is so, as all the cultural groups in this region practise it. But it is also a fact that other forms of marriage are also practised along with polyandry. In one house there may be three brothers with one wife, in the next house there may be an only son with three wives to himself, in the next, three brothers with four wives, so that monogamy, polygyny and polyandry and even group marriage are all practised side by side. Economic considerations have been suggested as the cause of polyandrous marriages. Thus whether a man should have one wife or a group of brothers one wife is said to be 'a matter of means and land'. Economic conditions engender social habits no doubt, and polyandry may be due to the difficulties of existence particularly in the region under investigation. The Gharwalis today do not observe polyandry but the Jaunsaris do. Once I had a talk with a number of Jaunsaris on this subject. I wanted to know why the Jaunsaris still practised polyandry while their next door neighbours the Gharwalis had outgrown this practice. The answer was extremely significant. I was told that they did not envy the Gharwalis. The latter left their homes due to the disintegration of joint families. At first, land in Gharwal was measured by acres, then by roods, then by poles, then by yards and feet till they all left their village and are today

distributed all over the country as domestic servants. The Jaunsaris love their homes and do not want to repeat the experience of their neighbours.

That economic conditions shape the forms of marital relationship we may not doubt, but can a society become polyandrous if polyandry is not the customary form of marriage among the people? The custom of hypergamy which makes it obligatory for a family to confine the marriage of girls within certain limits is a widespread practice in India and elsewhere where two or more races of unequal racial or cultural status have mixed together. It leads to the custom of marrying up as opposed to hypogamy or marrying below. It forbids a woman of a particular group to marry a man of group lower than her own in social standing and compels her to marry in it or above it, while man can marry in the group or below it. If we take a society with three social classes, A, B and C and all hypergamous, we shall find that men belonging to A can marry in A, B and C. Men of the B class can marry in B as well as C. Men of the C class must confine their marriages to their own class. Girls belonging to B can marry in B as well as in A, while girls of A must marry within A. If the sexes are equal in all the three classes, as they usually are, the girls belonging to A will have difficulty in getting married while boys in C will have a restricted choice and therefore will find difficulty in securing wives. In the A group polygyny may develop due to excess of females, in the C group polyandry is a possible consequence due to scarcity of women. But we find that in practice such situation has not developed. Instead in the A class the bridegrooms are at a premium and in the C class brides are at a premium. While in the A class bridegrooms are bought, in the C class purchase of brides is the rule. These customs have not led to the introduction of polyandry.

All of us know how difficult it is for the lower classes and primitive tribes to secure wives as it involves heavy financial commitment for the willing bridegroom, but such castes and tribes have not taken to polyandry. In some tribes if the bride price is not secured it is customary for the bridegroom to serve the family of the bride for a stipulated period so that he may liquidate the bride price by service and become eligible for marriage. Marriage by capture, concubinage, levirate and homosexual practices may be found along with polyandry so that economic conditions or the custom of hypergamy cannot by themselves explain the incidence of polyandry as we find in the Himalayan region.

Attempts have also been made to correlate polyandry to a disturbed balance of the sexes. Westernmarck could not find any absolute correlation between them. In the cis-Himalayan region as well as in those areas where polyandry is practised there is an excess of males over females.

JAUN SAR-BAWAR.

Disparity in Sex Distribution in Jaunsar-Bawar from
1881-1931.

	M.	F.	Total.
1881	25,400	19,717	45,117
1891	28,435	22,262	50,697
1901	28,349	22,752	51,101
1911	30,518	24,294	54,812
1921	31,567	24,056	55,623
1931	31,922	24,853	56,775

India is a land of males, for according to the latest available figures regarding the distribution of population by sex, India has approximately 180 million males compared with 169 million females. In many European countries the women are in a majority. At the census of 1901, there were 102,826 males and 75,369 females in the Dehra Dun district and there were 39,611 married women and 56,254 married men during the same period. Figures from other parts of this cultural region will show sex disparity. This unequal proportion of the sexes may have some effect on the form of marital relationship in these parts, but then there is an obvious difficulty in accepting this position. An intensive survey of four villages in Jaunsar-Bawar undertaken by me last year, has given the following data :

Village.	No. of Families.	No. of male children.	No. of female children.	Total No. of children.
No. 1 ..	21	37	31	68
No. 2 ..	26	48	21	69
No. 3 ..	15	24	13	37
No. 4 ..	17	34	30	64
TOTAL ..	79	143	95	238

Thus in 79 families investigated there were 143 males and 95 female children, the proportion being 3 : 2 ; in another group of villages investigated by my student, Mr. H. Meithal, there were 139 male and 83 female children, the ratio of male to female children approximately was 7 : 4.

We have no evidence to prove that female infanticide was freely practised or is practised in these parts. The demand for labour is so high that it is not possible to believe that female

children were put to death. Today in Jaunsar-Bawar, we find that many girls after marriage do not proceed to their husbands' village because their labour is greatly needed in the household of their parents. How far polyandry is responsible for the excess of male children is a profitable inquiry no doubt, but even if we admit the physiological law which produces an excess of female offspring in polygynous animals the reverse process may not be true. Granting it to be true in animals, it does not follow that such result is a necessary consequence of polyandrous matings in man, for man differs from animals in many particulars. How far dietary conditions are responsible for difference in fecundity and fertility and in the determination of sex of children born is a problem which has received little attention. How far viability of sperm in polyandrous unions affects reproduction has not been found. From local knowledge as well as the testimony of the people themselves, it appears that the extent of sexual diseases must have some selective effects on reproduction so that female children are more vulnerable than male and the incidence of male births is necessarily higher in this area. In any case, it is legitimate to suggest that polyandry may not be the consequence of a disturbed balance of the sexes as it may itself produce a disparity in sex proportion as we have already indicated.

Even if biological and economic factors do not explain the origin of the institution of polyandry, they certainly have maintained the institution as it exists today. The origin of an institution may be due to a variety of causes, just as in the evolution of the races, we do not think monogenesis can explain the diversity of types and races. Monogenic theory fails to explain the origin of complex cultural institutions. The status of the first born in the family is an important factor in the life of most of the people living in the Himalayan region. The system of patriarchal family is consecrated by religion in Tibet and also in the cis-Himalayan tracts. The property of the father remains the exclusive property of the first born, he is, however, under the obligation of lodging, clothing and feeding his brothers. When the eldest son of a man marries, the father abdicates his trust and makes it over to the eldest son. Just as the property of the family is owned by the first born but is enjoyed by the other brothers and dependants, the various partners in the joint establishment have a share in the wife of the eldest brother. Such is the principle of Tibetan Jurisprudence that even a father or uncle may live with his son's or nephew's wife and share marital rights over her. The marriage of a younger brother with another woman is considered bigamy as it is incompatible with the principles of Tibetan marriage. We have already referred to the status of the first born in Jaunsar-Bawar and similar evidence has been provided by others who have written on the people living in other parts of the Himalayan region.

Marriage has always been a group contract. Where the sanctity of a marriage is not established it is taken as a means of uniting two families or even two villages or clans. If marriage is a group contract, as it essentially is, the marriage of a woman with a group of brothers is not a unique phenomenon. That the various branches of the Aryan race had practised some such form of marriage can now be readily understood. Briffault, in his 'Mothers', has provided unmistakable evidence regarding the widespread practice of polyandry among preliterate and literate people in precontrol and control days, that is in both savage and civilized societies. But polyandry has existed side by side with other forms of marriage and thus the existence of polyandry in the society does not represent a survival as the historical anthropologists suggested, or even as a stage in the evolution of marriage, for we find it present even today in many parts of the world.

The marital life of Jaunsar-Bawar, as also of the entire Himalayan region is characterized by the inordinate freedom of women. It may be that the economic importance of women has determined the attitude of the people to the marital code, but the laxity of morals, the double standard of morality recognized by the community and the freedom with which marriage ties are annulled and entered into, are difficult to explain from a merely economic standpoint. The frequency of divorce and dissolution of marriage commonly known as the *Reet* has introduced problems extremely tragic in themselves, and an understanding of the implications of the marital life in these parts is necessary before any steps may be taken to remedy the situation. We have already discussed the various possible causes of polyandry in this cultural region and we have found how difficult it is to pin ourselves down to any of the interpretations given above. It appears, however, that the entire Himalayan region particularly the cis-Himalayan tract has its own story to tell about the characteristic social life one meets there, for such problems, as are found there, may be due to contacts between two distinct matrices that still survive in various traits otherwise inexplicable.

Without accepting the theory of unilinear progress of human society it may be said that many of the aboriginal tribes, Australoid or Pre-Dravidian, have passed through a matriarchal stage of culture, survivals of which are found today in couvade, laxity of morals among women and an economic independence difficult to interpret otherwise. The Tharus of Nainital Tarai who represent an aboriginal stock in these parts and who were more widely distributed in earlier days possess certain customs which can be explained as relics of a matriarchal culture.¹ For

¹ Some Aspects of the Matriarchal Culture of the Tharus and Bhoksas of Nainital District, by D. N. Majumdar. *Jubilee Volume of the Journal of the Bombay Anthropological Society.*

example, the women among the Tharus possess certain privileges which are denied to women in most parts of the country. The Tharu women do not allow their husbands to touch the water jars where water for drinking is stored. The Tharu women never salute the men who may stand to them in superior relation, they only bow but never touch the feet of their male superiors. The Tharu women go out to make purchases while their husbands carry them home. The Tharu women are expert painters and their mural paintings consist of pictures and scenes depicting fights and even warriors on horse back. The Census Report of the U.P., 1931, records further peculiarities of the Tharu women. Indian women as a rule proceed to the fields very early in the morning. They have a meal at midday and work till the evening. The Tharu women, on the other hand, go to the fields after a good meal corresponding to an English breakfast. At midday they eat some grain and then return home in time to cook and prepare the evening meal for their men folk. They thus work two to three hours less than the women of other tribes and castes. Again, Tharu women, unlike other women, do not carry paddy seedlings to the fields where they have to be transplanted. The seedlings have to be carried by the men. Other women carry them on their heads, thus saving the expense of a labourer or two. The Zemindars did their utmost to change these conditions, but rather than change their mode of life they chose to leave the fields altogether. The result was a migration of the Tharus to Nepal and other tracts. The women among the Tharus thus wield great authority in social and domestic spheres, and even in the activities of an economic order they have assumed the rôle of leadership. Occupations which are taboo to women in other parts are pursued with consummate skill and enterprise by the Tharu women and even hunting, fishing and fowling are done by them.

The settlement of a purely patriarchal people, like the Indo-Aryans, among a predominantly matriarchal people, viz. the Doms, has certainly led to cultural fusion and acculturation. It is on this assumption that we can explain some of the important traits-complex in the cis-Himalayan region, as for example, the double standard of morality practised by the women. Matriarchal social life is incompatible with rigid rules and taboos fettering the free movement of the women, but patriarchal society cannot function unless the woman is loyal to the family of the husband and thus a conflict arises between duties and rights resulting in a compromise in behaviour patterns as we meet in Jaunsar-Bawar and other parts of the Himalayan region. The latitude granted to a woman in her parents' house is reminiscent of the matriarchal life, while the circumscribed freedom of the wife in her husband's village indicates the ascendancy of the patriarchal code over the matriarchal. Even today a woman returns periodically to her parents' village to

assist the latter in household and agricultural work and during festivals and ceremonies she must come back to her native village to pass the time in the company of her friends and relations on her parents' side. This custom, however, produces an interesting grouping of the village units and is responsible for much of the laxity in morals and peculiar behaviour patterns which characterize the hill community. The exogamous rule does not allow girls of the same village to marry within the village, though extramarital sex relations are possible and are not noted as serious offence by the local group. The girls of the family or village who may belong to two to three generations (as for example, grandfather's sisters, father's sisters and own sisters) are all known by the classificatory term *Dhyanti* and include the prohibited degrees of relationship. The diagrammatic arrangement given below will illustrate the nature of social stratification and grouping commonly met in Jaunsar-Bawar. As the village is usually inhabited by members of the same *Got* or clan, marriage must be arranged outside the village. But even if the village contained more than one clan, marriage within the village group may not be desired on account of the latitude in sex life obtained in the village.

$$\begin{array}{l}
 X \quad \begin{array}{c} \sigma \\ \rho \end{array} \left\{ \begin{array}{cccccc} A_1 & A_2 & A_3 & A_4 & \dots & \dots \end{array} \right\} \left\{ \begin{array}{cccccc} B_1 & B_2 & B_3 & B_4 & \dots & \dots \end{array} \right\} \\
 \quad \quad \quad \left\{ \begin{array}{cccccc} b_1 & b_2 & b_3 & b_4 & \dots & \dots \end{array} \right\} \left\{ \begin{array}{cccccc} a_1 & a_2 & a_3 & a_4 & \dots & \dots \end{array} \right\} \\
 Y \quad \begin{array}{c} \sigma \\ \rho \end{array} \left\{ \begin{array}{cccccc} A_1 & A_2 & A_3 & A_4 & \dots & \dots \end{array} \right\} \left\{ \begin{array}{cccccc} B_1 & B_2 & B_3 & B_4 & \dots & \dots \end{array} \right\} \\
 \quad \quad \quad \left\{ \begin{array}{cccccc} a_1 & a_2 & a_3 & a_4 & \dots & \dots \end{array} \right\} \left\{ \begin{array}{cccccc} b_1 & b_2 & b_3 & b_4 & \dots & \dots \end{array} \right\}
 \end{array}$$

If we take two villages between which marriages are usually arranged and if we denote the males of one village as $A_1 A_2 A_3 \dots$ and the females as $a_1 a_2 a_3 \dots$ and the corresponding units in the other village as $B_1 B_2 B_3 \dots$ and $b_1 b_2 b_3 \dots$, X would give the normal arrangement of units for an exogamous village, but the second situation, viz. Y arises on account of the social custom of the periodical migration of *Dhyantis* from their husbands' village to that of their parents. This periodical exodus of women in these parts is a compromise trait that owes its inception to the impact of cultures and not to the economic necessity of assisting parents as would be superficially evident.

There are other traits which point to a fusion of cultures already indicated. For example, when a matriarchal society comes in contact with a patriarchal and a miscegenation takes place between the people of these diverse cultures property consideration makes it necessary for children to be affiliated to the parent who owns the property. Thus metronymic designation is found with matrilineal residence and matrilineal inheritance, as otherwise the children would not be cared for by the patriarchal group to which the father may belong. So the children of a woman who leaves her matriarchal moorings and comes to live with a man of the patriarchal society must

receive patronymic designation or in default some arrangement should be made by the community to allow them to inherit some part of the property of their father or mother. But a compromise trait may develop as it has in Jaunsar-Bawar and neighbouring hill States, which makes it possible for a Bhat (or Brahmin) or a Rajput, for example, to remain a Bhat or a Rajput even when he marries a Kanet girl, the children, however, are called *Sarteras*, though it is possible for the latter to regain the status of the Bhat or Rajput after two to three generations. A Bhat or a Rajput is not allowed to marry a Koli girl or any girl belonging to the artisan castes who are recruited from the Dom element. Should a Bhat or a Rajput girl marry a Kolta or Dom, the children must be affiliated to the father's caste and receive patronymic designation. Sex relations are allowed, but strict rules are in force prohibiting any social intercourse between a Brahmin or Rajput, and Kolta or Dom woman. A Brahmin or a Rajput may even be allowed to keep a Kolta woman as his mistress, but he should not be seen to smoke or drink with her. When a Bhat girl marries a Kanet in the Sirmoor State, she becomes a Kanet, but if a Kanet girl marries a Bhat she may remain a Kanet or become a Bhat.

In the matter of inheritance also we find that the hill code differs materially from that of the orthodox Hindu, as it allows a woman to inherit her father's property in the absence of any male issue by the same father. So long she remains unmarried or even after marriage should she reside with her husband in her father's village, she can own and use the property in anyway she likes. If she leaves her house and proceeds to live with her husband, she forfeits her claims to the property which passes on to the collaterals. A widow in Kulu and other areas can inherit the property of her deceased husband and even keep a partner to live with her in her husband's house though she cannot formally marry any one and retain her life title to the property at the same time. Not only in the economic sphere but in the matter of sex the woman is given an inordinate latitude incompatible with the patriarchal code. In Sirmoor and other Punjab Hill States where polyandry is the prevailing form of marital relationship, the joint wife sleeps with all brothers in the same common house or dormitory and complete freedom is allowed to the wife to choose her mate for the night. She naturally makes her choice earlier in the day in consultation with her husbands, but she does not usually bestow her favour in such a way as to arouse suspicion about her intimacy with any particular husband. The joint wife by tradition and upbringing knows her responsibility and meets the wishes of her spouses as best as she can. Enquiries on this subject have elicited frank answers from the wives and it may be mentioned as a general rule that a wife may sleep with a particular husband every night but must also meet the demands of the other husbands by turns. A

number of girls admitted that they were fond of one of the husbands but they did not object to having sex relations with other husbands if and when they wanted them. When asked why they did not live with the husband they were fond of instead of living as the spouse of the other husbands as well, they did not think it was necessary as the other husbands did not grudge her freedom in this respect. When economic conditions improve and the head of the family can spend some money over the purchase of another wife she does not object to a second wife and some wives have confessed to us that for years they have been living under monandrous conditions.

The importance of the maternal uncle in a patriarchal society where cross-cousin marriage is not popular, furnishes another argument for a matriarchal matrix in these parts. The mother's brother has an important rôle to play in the marriage of his nephew or niece. It is he who finds out mates for his sister's children. He arranges the ceremony, manages the function and receives presents from friends and relations. As child marriage is very popular in the hills, the child bride is carried on his shoulder by the maternal uncle and when the couple return to the house, it is usually the maternal uncle who supervises the propitiation of spirits and the worship of benevolent gods and goddesses.

Thus we find that the superimposition of a patriarchal culture on the matriarchal matrix has been responsible for many of the traits characteristic of this cultural region. The feudal system which still survives in this part largely accounts for an elaborate territorial organization based on a confederacy of *Thokdars* or *Sayanas*, and also consequent desire to concentrate power in the senior male member of the family. These have given rise to a rigid code of joint living and co-partnership and may have sanctioned the prevailing type of marital life in these parts.

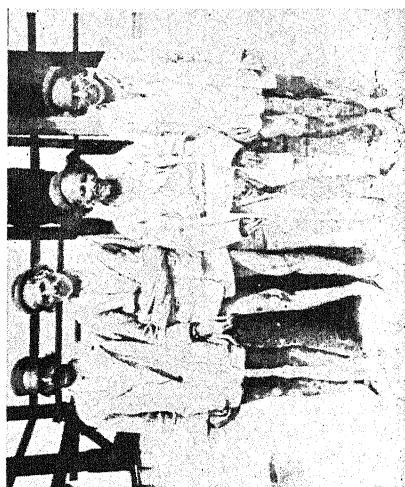
In our description of the physical features of the Khasas we had emphasized the fact that the hill people do not represent an undiluted stock and the Doms have received Khassa infiltration. The physical features of the artisan castes, such as the Bajgirs, the Koltas, the Oadhs and others, provide ample proof of this fact. But the hypergamous practice of the Khasas has prevented the Khassa girls from marrying the Doms while the Dom girls married to Khasas did not receive Khassa affiliation. Nor did the Khassa girls marrying the Doms or members of the artisan castes retain their castes. So that the intermixture of the two people on the one hand prevented much dilution of Khassa blood and on the other contributed to great admixture among the Doms. It is not improbable, however, that polyandry would be hailed as a welcome means of keeping the Khassa blood free from wholesale contamination though Khassa infusion must have contributed to a large scale admixture among the inferior

groups. The peculiar economic conditions of the hills and the biological factor of sex disparity where it exists have no doubt largely determined the form and functions of the traits-complex, but had it not been for the matriarchal matrix the polyandry of the Himalayan region would not have assumed the importance it possesses.





1. A Hill View showing the terraced fields and the valley.



4. A Group of Khasa-Rajputs of Jadi, Jaunsar-Bawar.



3. A Group of Khasa-Rajputs and Khasa-Brahmins.



2. A Khasa Woman working in the field.





5. A Jaunsar Belle of Lakha Mandal,
Chakrata Sub-Division.



6. A Beautiful Khasa Woman of
Nada, Chakrata Sub-Division.



7. A Khasa Girl in her Bridal Dress.



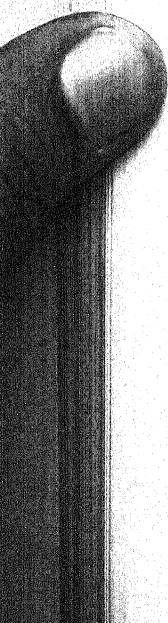
8. A Group of Child Brides.



9. A Couple of Khasa Women Married to a Group of Brothers.



10. A Polyandrous Family with a daughter on the eve of her departure for her Husbands' village.



Notes on the Life and Labours of Captain Anthony Troyer.

By SIR AUREL STEIN, K.C.I.E.

During the laborious years, 1888-1899, spent by me at Lahore I devoted whatever scanty leisure could be spared from teaching duties and exacting administrative work, to the task of critically editing, translating and annotating Kalhana's *Rājatarāṅgiṇī*, the oldest extant Sanskrit Chronicle of the Kings of Kashmir. In the course of these protracted labours supplemented by such antiquarian tours in Kashmir as vacations allowed me to make, I became necessarily interested in the person of Captain Anthony Troyer, a predecessor in this difficult task. His career had been very varied, and his life had been spent in many lands. Returning after two prolonged periods of service in India, first at Madras and after an interval of more than ten years at Calcutta, he published in 1840 at Paris an edition of the Sanskrit text of the first six cantos of the Chronicle with a French translation under the auspices of the Société Asiatique.¹ Twelve years later he followed this up with a translation of the remaining two cantos containing the greater portion of the work, an *editio princeps* of the whole of the text having been printed in 1835 at Calcutta.

Kalhana's 'River of Kings', as practically the sole extant product of Sanskrit literature possessing the character of a true chronicle, was bound to attract attention ever since European scholars became aware of its existence. Moorcroft, that intrepid but ill-fated explorer, had shown zeal and judgment when during his stay at Srinagar in 1823 he secured a copy from the oldest then known manuscript. But the *editio princeps* produced from it at Calcutta in 1835 was far too defective in many respects to serve for a serious interpretation. The grave shortcomings of Troyer's effort based on the same materials have long ago been recognized by all qualified Sanskrit scholars. The patient industry and perseverance of the aged scholar might well claim recognition; but there could be no doubt that the great Indologist, Professor George Bühler, was justified in

¹ *Rajatarangini—Histoire des rois du Kachmir*. Traduite et commentée par M. A. Troyer, Membre des Sociétés Asiatiques de Paris, Londres et Calcutta, et publiée aux frais de la Société Asiatique. 1840. Paris. Vols. I, II.

Vol. II contains in its second part an 'Esquisse géographique et ethnographique du Kachmir, ancien et moderne'.

judging that Troyer had undertaken a task very much beyond his strength.

This failure was due largely, as I have explained elsewhere,¹ to the insufficiency, in general, of the materials available to European scholars at the time, and in particular to the fact that for the full comprehension of Kalhana's narrative such familiarity was needed with the topography, physical and economic conditions, and other local features of Kashmir as could not be obtained from outside then or since. But the shortcomings of the translator and commentator are still more readily understood—and excused if account is taken of Troyer's career and his preceding work in fields wholly different from Oriental research. It is the distinct interest presented by Troyer's personality and life which prompts me to record here what information the help received from a revered teacher, a War Office now defunct, and two kind friends has enabled me to gather from widely disparate sources in the course of decades.

It was from a fairly detailed obituary notice contained in the Annual Report presented in 1866 to the Société Asiatique by its Secretary M. Jules Mohl,² the distinguished Orientalist scholar, that I first became acquainted with the main outlines of Troyer's singularly varied life story. As Mohl tells us in the introductory remarks of this notice, the information he recorded was based solely on his recollections of conversations with Troyer when the latter, arrived at a very great age, was leading a life of studious seclusion at Paris. Mohl took care to warn his readers that these recollections were incomplete and might prove inaccurate on some points.

This warning, as we shall see, has proved justified in the light of later enquiries. It had been emphasized by that great Sanskrit scholar, Professor Rudolf von Roth, my master, when in 1893 in response to my enquiries about Troyer he showed me the great kindness of copying out with his own hand Mohl's notice. Roth, when working in Paris in 1845-6 under the guidance of Burnouf, had occasion to meet Troyer. He remembered some quaint features in the habits of the old gentleman who in his retirement was *inter alia* fond of putting his birth even earlier than that indicated in Mohl's notice. This would have made him nearly a centenarian at the time of his death. Roth's critical sense duly recognized the need of controlling Mohl's recollections by a search elsewhere for data

¹ *Kalhana's Rājatarāṅgiṇī*. A Chronicle of the Kings of Kashmir, translated with an Introduction, Commentary and Appendices, by M. A. Stein. Archibald Constable & Co., 2 vols. quarto. Westminster, 1900. See Vol. I, pp. ix sq.

² See *Rapport Annuel* fait à la Société Asiatique par M. J. Mohl, Paris, 1866, pp. 13-18.

concerning Troyer's chequered life. But owing to absorption in my subsequent Central-Asian explorations and labours in other fields the opportunities for this came to me only after years. Hence in a note to the preface of my annotated translation of the Chronicle¹ I could do no more than reproduce an abstract of the essential statements contained in Mohl's biographical notice.

It is probable that even now additional facts of some interest concerning Troyer's life and manifold contacts in widely separate spheres might be brought to light from different sources. But since now the kindness of my friend Colonel R. H. Phillimore, late of the Survey of India, has recently made me acquainted with the result of his researches, illustrating what must be considered by far the most important portion of Troyer's life work and one hitherto left unnoticed, it seems time to sketch here what we know at present of his strangely diverse career.

According to Mohl's story Anthony Troyer was born in Austria about 1769 and having received his education in a military institution left it as an artillery officer. During the campaign of 1792 in Flanders he was stationed in an abandoned monastery and by a curious incident there was led first to Oriental studies. One day he found his artillery men about to make up cartridges for their guns with pages torn from a fine polyglot bible. Having saved the volume from their hands he beguiled his leisure with the study of an Arabic version of the New Testament. After his transfer to the Austrian army in Italy he was attached, evidently as liaison officer, to the English naval force co-operating at the siege of Genoa in 1800. In this capacity he made the acquaintance of Lord William Bentinck, and this changed the whole course of his life. Lord William Bentinck formed a friendship with the capable young officer and on his appointment as Governor of Madras in 1803 brought him out to India as a member of his staff. For this purpose, as Mohl tells the story, it was necessary for Troyer to hold a commission in the British army. So he was provided with a captaincy in a Ceylon Rifle Regiment about to be raised. He is said to have promptly sold his brevet and to have then proceeded as a retired officer to India with Lord William Bentinck. In Madras he then was, so Mohl tells from recollection, officially charged with a course of instruction in mathematics and thereafter became Principal of the Muhammadan College.

Vague and slightly anecdotic as this information about Troyer's start in life seemed, it was sufficient inducement to take the chance of my passage through Vienna in September, 1902, of making an enquiry at the Austrian War Office as to

¹ See Stein, *Kaṭhaṇa's Rājatarāṅgiṇī*, etc., Vol. I, p. x. note 7.

what might be found in its records about Captain Anthony Troyer. The result to my pleasant surprise was the receipt of authentic information unexpectedly prompt and detailed. When addressing my verbal request to the officer to whom I was directed in the Historical Section of the War Office he at once declared himself quite familiar with the name of Captain Anthony Troyer and his career also, as far as it had lain in the Austrian army.

There on his table lay a file concerning the planned publication of the materials contained in a history of the campaigns fought in 1794 by the Austrian forces in the Low Countries, Germany, and Italy, which Troyer had prepared in five foolscap volumes. On account of its excellence this history was declared in 1816 a model for similar official records of campaigns. I regret that I have since taken no steps to ascertain whether and when the intended publication of Troyer's work actually took place.

It was a curious play of chance when two days later by the courtesy of the Imperial and Royal 'Kriegs-Archiv' there was placed at my disposal a detailed and fully authenticated record (No. 2036 and No. 568, dated September 25th, 1902) of Troyer's career in the Austrian service. It comprised the time from his entry into the Military Academy at Wiener-Neustadt, founded by, and called after, the Empress Maria Theresia, until 1803 when his application for two or three years' leave to accompany the newly appointed Governor of the Madras Presidency was granted. Of Troyer's life after his departure for India nothing was known to the Historical Section of the Vienna War Office. Hence the succinct account I could in return furnish relating to his employment in the East India Company's service and his scholarly work later was welcome.

It is from that official record, provided with all needful references to the original documents, that I glean the following essential data. Anthony Troyer von Aufkirchen was born in 1775 at Klattau in Bohemia. This fact proves that his age at the time of his death, as recorded in Mohl's notice, was distinctly overestimated and confirms the doubt Professor von Roth had expressed on this point when writing to me on February 26, 1893. Troyer was the son of Lieutenant Joseph Troyer von Aufkirchen, of the Austrian Dragoon Regiment Josias Prinz zu Sachsen-Coburg-Saalfeld. In 1787 he was admitted into the Military Academy at Wiener-Neustadt, a famous institution which as long as there was an Austrian army, supplied the élite of its corps of officers. In 1791 he received his first commission as cadet-ensign in the Infantry Regiment No. 38 and was promoted in the same first to Ensign and then in 1793 to Second Lieutenant.

He took part with his Regiment in the campaigns in France, the Low Countries and on the Rhine, and was wounded

near Valenciennes in 1793. Attached to the Quarter Master General's Staff he greatly distinguished himself during the actions fought in 1795 near Düsseldorf and, in consequence, was in that year promoted to First Lieutenant on the Quarter Master General's Staff. On account of illness he did not take part in the campaign of 1796, but served in the following year in the Rhine army. In 1798 he was ordered to Italy for survey work, was subsequently attached to the army operating there and was wounded at the battle of Novi in 1799. Meanwhile he had received promotion as Captain in the Quarter Master General's department. He served during the campaigns of 1800 and by May 1801 was appointed to the newly established 'War Archive' or what corresponds to the Historical Section of a modern War Office. It was during this employment that Troyer was charged with preparing the record of the campaigns of 1794 in the Low Countries, Germany, and Italy, above referred to, the value of which was specially eulogized years later.

After nearly two years' work in that post Troyer applied for two or three years' leave in order to accompany Lord William Bentinck who had invited him to proceed to India as a member of his household. As he explained in his application, he could hope there to acquire a competence and therefore would renounce any claim upon future provision by the Austrian Government. His application was duly granted by an imperial resolution of February 23, 1803. In order that his post on the Quarter Master General's Staff might be filled he was transferred without pay as 'supernumerary on leave' to the Infantry Regiment No. 49. As he did not return from leave and no information about him was received, his name was at the Regiment's request removed from its cadre in March, 1809.

The record here reproduced affords ample evidence that Troyer's career as a young officer in the Austrian army, comparatively short as it was, had offered him opportunities to distinguish himself in the field and to display marked intellectual abilities. His four years' training at an early age in the foremost military institution of old Austria was bound to have played a chief part in developing them. It may safely be assumed in particular to have laid the foundation to his scientific knowledge of surveying methods and practice.

This, as we shall see further on, enabled him in Madras to render very important services to the army in India, by providing its first staff of officers specially trained for systematic topographical survey work. In this respect the reference in the record to his employment on topographical surveys in Italy is of special interest. It proves that as a young officer on the Quarter Master General's Staff, for which he, no doubt, had been selected on account of his superior training and mental capacity, he had opportunities to acquire practical experience in survey

work with the plane-table. The use of this he was to be there after the first to introduce for surveys in India.

The record makes no mention of the special circumstances which during the Italian campaign of 1799-1800 offered the opportunity for Troyer to come to the notice and acquire the friendship of Lord William Bentinck. On the strength of Troyer's recollection as reproduced in M. Mohl's notice, it may safely be assumed that it was the siege of Genoa in 1800 by the Austrian army under General Melas which by chance determined the whole course of Troyer's subsequent life. Lord William Bentinck, then a youthful Colonel, was attached as the military representative of England to the Austrian army in Italy during the years 1799-1801.¹ As such he was, no doubt, present before Genoa when the strongly fortified city, blockaded from the sea by a British naval force, was ultimately surrendered by Masséna owing to famine among its population.

If Troyer was acting as a kind of liaison officer between the Austrian army before Genoa and the British naval force he would have been bound to be often brought into contact with Lord William Bentinck. His abilities could scarcely escape so good a judge of men as Lord William Bentinck proved all through in the high offices which he was destined to fill. It may, perhaps, be conjectured also that Troyer's linguistic talents, as amply displayed later in his Indian studies, and indicated by the story of Mohl about his interest first aroused in Arabic, attracted Lord William Bentinck's attention. Troyer's selection as liaison officer with the British command may well have been due to a knowledge of English, an accomplishment probably very rare in those times among Austrian army officers.

The exact information secured at Vienna about the early part of Troyer's career induced me next to apply to Mr. (now Sir) William Foster, C.I.E., late Superintendent of Records at the India Office, for data concerning Troyer's later employment in India. That ever helpful friend was kind enough to furnish me on December 5th, 1902, with a memorandum based on the records of the East India Company but not intended for publication as it stood. From this it was seen that Troyer accompanied Lord William Bentinck to Madras in 1803, having been provided, probably through the latter, with a commission as Ensign in His Majesty's 12th Foot. He was not attached at that time to the Governor's Staff.

¹ See Boulger, *Lord William Bentinck*, Oxford, 1892, p. 16. The interest subsequently shown by Lord William Bentinck in Troyer might, perhaps, be partly accounted for by what Boulger states in a note: 'In one of his despatches, he (Lord William Bentinck) bore eloquent testimony to the valour and devotion of the Austrian army, which he found far too few to appreciate it. "It is impossible to do justice to the valour and perseverance of the Austrian army," he wrote.'

In 1804 Lord William Bentinck proposed a plan for the establishment of a class for the special instruction of a certain number of cadets in topographical surveys. This proposal having been accepted by the Council, Major General Dugald Campbell, Commander-in-Chief at Madras, on November 12th, 1804, nominated, probably at the prompting of the Governor, 'Ensign Anthony Troyer, of His Majesty's 12th Foot', as Drawing and Mathematical Instructor for this class. This nomination was promptly followed on November 13th by his appointment to the post on a salary of 250 Pagodas per mensem. The plan and Troyer's selection for the post were finally confirmed by the Court of Directors on the 30th July, 1806, Troyer having meanwhile been promoted to the rank of Lieutenant.

The class soon developed under Troyer's direction into the Madras Military Institution. In a Military Letter, dated 24th October, 1808, as quoted in Sir William Foster's memorandum, the Madras Government speak highly of the results of the establishment of the Institution and praise the 'zeal, attention and ability' of Lieutenant Troyer. From this and other more incidental references to Troyer's work at Madras quoted in Sir William Foster's memorandum, it became abundantly clear that his activity during the first period of his Indian service soon fully justified the judgment displayed by Lord William Bentinck in bringing his friend to India and in providing for him a field of work worthy of his capacity and to the advantage of Government.

But it was only when I turned lately to Colonel R. H. Phillimore for any information which, as a late Officer of the Survey of India, he might be able to trace about Troyer's activity at Madras, that I became aware of the importance which must be claimed for it. For several years past Colonel Phillimore has been engaged on a full history of the Survey of India, that great department of the Indian Government which for nearly a century and a half has rendered very notable services not only to the administration of the sub-continent but to geographical research over a still vaster area of Asia. In the course of painstaking search in the archives of the Madras Government he collected much interesting information about the working of the Madras Military Institution which owed its creation to Lord William Bentinck's initiative and its success to Troyer's zealous direction. From this I have been enabled through Colonel Phillimore's kindness to gather the following data.

"Stimulated by a recommendation made in 1804 by the Surveyor General in Bengal to the Bengal Government, the Commander-in-Chief at Madras, General James Stuart, had urged his Government that more officers should be trained as Surveyors in order to facilitate the extension of surveys into the unmapped territories added to the Presidency since the defeat of Tipu in 1799. Lord William Bentinck took up the matter

with enthusiasm and in a minute of September 24th, 1804, proposed that 'a select number of the Gentlemen Cadets at Tripasore shall be instructed in the art of topographical surveys by an instructor capable of giving the double lesson in Geometry and Military Drawing'. The suggestion having been accepted by the Council the succeeding Commander-in-Chief at Madras, General Dugald Campbell, recommended the appointment of Ensign Troyer, of His Majesty's 12th Foot, to the proposed post. To this he soon after added the significant recommendation that 'the plan in question having originated with the Right Hon'ble the Governor, . . . the first arrangements of it may take place under His Lordship's superintendence', as stated in the Madras Military Consultations, 13th November, 1804.

"The Military Seminary" was thereupon established, and Lord William Bentinck laid before Council on November 17th, 1804, detailed regulations for the conduct of the Institution, together with a 'plan of instruction'. It was to include from the start 'the practical part of surveying with the plane-table'."

The promptness, unusual in those days and parts, with which these regulations were prepared strikingly illustrates the keen interest with which the Governor followed up the scheme. That its inspiration came largely from Troyer is definitely indicated by the mention of practical surveying with the plane-table, a method not applied then in India but of well-established use where Troyer had received his own training.

"By April 1805 the first class of cadets passed into the Institution and like those which until 1814 followed annually in succession remained for two and a half years under instruction. Troyer's first report submitted in October, 1806, shows the extent of the scientific instruction imparted and refers to specimens of drawings of survey work done by the cadets in the field as 'exhibited every month to your Lordship'. In May 1807 Troyer submitted a long review of the course of instruction to Lord William Bentinck. A memorandum on this course and the future employment of the officers trained was submitted by him after Lord William's departure in that year and was favourably commented upon by Lambton, the founder of the Indian Trigonometrical Survey, the Astronomer at the Madras Observatory and the Quarter Master General at Madras to whom it was circulated.

"In December 1807 Troyer's hands were strengthened for the purposes of discipline by the Institution being placed under the control of the Quarter Master General under whom it still remained after the establishment of a Surveyor General at Madras.¹ In a report to Government submitted in 1808 Troyer

¹ Information extracted by Colonel Phillimore from the Madras Military Consultations and kindly communicated to me helps to throw light on this step. It illustrates the personal interest which Lord William

indicates his intention of giving lectures also on 'those astronomical problems which are in the strictest connexion with geography and of the greatest practical use'.

"The partial withdrawal of the East India Company's trading privileges by the Act of 1815 induced the Court of Directors to effect reductions in their Indian establishments. A despatch addressed by them to Madras on 5th May, 1815, ordered, among other economies, the abolition of the Military Institution, on the ground that the existence of a similar institution in England rendered the Madras one superfluous. Sir Thomas Hislop, Commander-in-Chief at Madras, recorded a protest (15th January, 1816) strongly emphasizing 'the great mass of geographical and topographical materials with which...the students of the Madras Institution have enriched the records of the Company and in some instances of the civilized world'. It points out the great value of the scientific training imparted to young officers, also that in the course of it 1,620 square miles on the average had been annually and most minutely surveyed. Stress is laid on the services rendered by pupils of the Institution when attached as Surveyors to successive expeditions outside India they 'compiled the best map of the countries between the Indus and the Nile that has ever yet been given to the world' and produced topographical information of the utmost value in territories as widely apart as the Deccan and Java.

"The Governor and Council, however, decided that the orders of the Court of Directors left them no discretion in the matter, and a General Order was approved abolishing from the 31st May, 1816, the Military Institution and the Survey branch of the Quarter Master General's department. At the same time

Bentinck continued to take in the Institution created under his auspices and indicates also a characteristic feature of Troyer's personality. After Lord William Bentinck had left Madras in 1807 Mr. William Petrie, the acting Governor, proposed that steps should be taken for the better maintenance of discipline at the Institution, Bentinck's supervision no longer existing. 'Discipline would be much better maintained if entrusted to Troyer who is always on the spot.'

It was accordingly proposed to give to Captain Troyer the appointment of Assistant to the Quarter Master General. After noting that Troyer had hitherto been in no way responsible for the discipline of the pupils, the minute states: 'Every praise is no doubt due to Captain Troyer for the universal satisfaction which he seems to have given to the Gentlemen who were placed under his tuition; but probably he would not have been less fortunate, had he, at the period of his first appointment, been invested with more extensive authority.' Troyer's appointment as A.Q.M.G. 'placing him ostensibly under the first public officer of the Army, will no doubt (combined with the mildness of his manners) give him sufficient weight to maintain discipline'.

It does not appear from the records consulted by Colonel Phillimore that "Troyer ever signed himself, or was listed, as A.Q.M.G. But he is hereafter frequently designated Superintendent of the Institution, which title was probably recognized as covering his complete responsibility, in addition to being Instructor".

testimony was borne to the excellent way in which Captain Troyer and his staff had carried out the duties entrusted to them." The lasting value of the work directed by Troyer and its far-reaching effect upon the topographical surveys carried on since all over India and great adjacent regions by the Survey of India are thus summed up by Colonel Phillimore, its very competent historian.

"During the 11 years that the Military Institution existed, it remained under the charge of Troyer and he was entirely responsible for the methods of survey in which the pupils were taught and trained. Survey was carried out by plane-table on the scale of 4 inches to the mile. The plane-table survey was based on triangulated points as fixed by Lambton's triangulation, minor triangulation being carried out by Troyer or the more senior pupils. Where surveys extended beyond the area covered by Lambton, special triangulation was carried out by Garling, Troyer's most successful pupil.

"Survey by plane-table was thus introduced as a regular method of survey for the first time in India by Troyer, and all officers of the Madras Military Institution were thus brought up to regard it as the normal method of survey. Through the influence of the officers of the Institution the plane-table was, about 1824, declared to be the standard instrument of survey for all Madras surveys.... The methods taught by Troyer gradually extended to the Bengal Presidency as Madras trained officers were eventually brought up to Bengal....

"The choice of Anthony Troyer as Instructor for the Madras Military Institution was a most happy one and of particular interest. Starting the surveys of the Institution shortly after Lambton had completed his first series of triangles along the Madras coast, he was able to introduce for the first time into India the soundest principles of topographical survey, breaking down the main triangles of the trigonometrical survey by his own minor triangles and filling the detail by plane-table, laying out the plane-table sections in a continuous rectangular grid. Holding the post of Instructor for eleven years he trained a large number of officers in this system which in its main principles has persisted to this very day."

There can be no doubt that the work done by Troyer at Madras was by far the most important achievement of his life. Yet he seems, if we may judge from Mohl's very scant reference to it, to have been strangely silent about it in the communications of his retired old age. But about a personal aspect connected with his employment at Madras the official records consulted by Sir William Foster at the India Office supply some interesting information. As it throws light on Troyer's position and also curiously illustrates military procedure at the time it may be quoted in full.

"Lieutenant Troyer had not as yet joined his regiment (His Majesty's 12th Foot), and as the Commanding Officer had resolved not to recommend him for a Captaincy unless he did so, he caused a letter to be written on 7th February, 1812, from Port Louis, Mauritius, where the regiment was then stationed, summoning Troyer either to join or to exchange into some local regiment. On 16th September, 1812, Troyer forwarded this letter to the Commander-in-Chief at Madras, and asked for instructions. In doing so he stated that he was extremely desirous of remaining in his present post without losing his position in his regiment.

"The Commander-in-Chief replied that he had no power to give leave of absence from a regiment not under his command, but he would write to the General Officer Commanding at the Isle of France and also to H.R.H. the Duke of York at home, requesting that leave of absence might be granted to Troyer without detriment to his promotion. This reply was communicated (27th September, 1812) by the latter to the Officer Commanding his regiment, with the request that the indulgence already shown to him might, if possible, be extended until he should have obtained the rank of Captain.

"On 1st April, 1813, he received a brief answer, dated 11th November, 1812, to the effect that the Officer Commanding could not grant him any leave whatever; that he had now been returned as 'absent without leave'; and that the Duke of York had approved of his being passed over in a recent selection for a captaincy. Troyer thereupon forwarded the correspondence to the Governor of Madras, pointing out that possibly the matter might yet be reconsidered, as evidently a decision had been taken before the arrival of the promised letter from the Commander-in-Chief at Madras, but stating that if his promotion in his Corps were incompatible with his retention of his post at the Military Institution, he should not hesitate to give up his prospects in the army and rely upon the favour of the Madras Government.

"The Government of Madras addressed a letter to the Governor of the Isles of Mauritius, Bourbon, etc. (11th May, 1813) apologizing for having detained Lt. Troyer from his duty; eulogizing his services and intimating that the Court of Directors would be asked to arrange if possible for the continuance of his employment at Madras. The Court of Directors was addressed accordingly (25th August, 1813).

"Nothing further on the matter has been traced; but it appears from the (British) Army List of 1814 that Troyer was appointed to the 4th Ceylon Regiment, the date of his regimental rank being given as 15th July, 1813. He was placed on half-pay on 25th July, 1815 (Army List of 1824) and remained so till his death."

From Mohl's notice it is known that Troyer while at Madras had married a French lady at Pondicherry; at what date is not

stated.¹ This explains the record contained in the Madras Military Consultations of 15th June, 1816, as kindly communicated by Colonel Phillimore: 'The Commander-in-Chief . . . at the earnest request of Captain Troyer permitted that Officer to accompany his family to Pondicherry, where he proposes to reside until an opportunity shall occur for proceeding to Europe.' Colonel Phillimore adds the information that Troyer was probably still in India when Mackenzie left Madras in July 1817; for Mackenzie writes to Mountford in October 1818: 'What is become of Capt. Troyer? Recommend me to him.'

That Troyer during his employment at Madras took up the study of Indian languages can safely be concluded from Mohl's statement that he studied there Tamil, Hindustani and Persian. But there is no evidence of his having ever been in charge of the Muhammadan College there, as Mohl indicated. But his reference to Troyer having at Madras commenced a translation into German verse of episodes from Firdausi's great epic, the *Shāhnāmāh*, may be accepted as correct. Mohl was bound to have been specially interested in this proof of Troyer's Persian study as he himself published later a monumental edition and French translation of Firdausi's *Shāhnāmāh*. He declares to have had portions of Troyer's manuscript version in his hands. It deserves also to be noted that the 'plan of instruction' for the Military Institution, which was proposed in 1804 by the Governor (Madras Military Consultations, November 17th, 1804) and was probably drawn up under Troyer's inspiration, specifies 'one of the native languages' in the first place among the subjects to be taught.

It is much to be regretted that we have no definite information about the years spent by Troyer after his retirement to Europe after 1817. According to Mohl he lived with his wife at Paris, continuing his Oriental studies '*dans une retraite silencieuse*'. It would be interesting to know something about the contacts he might easily have formed there with that leading master of Oriental studies, Sylvestre de Sacy, and other French scholars of note. It would be, perhaps, still more useful if evidence could be traced as to the way in which personal touch was maintained by Troyer with his friend and patron Lord William Bentinck.

That this contact, so important for Troyer's life, remained unbroken after Lord William Bentinck's departure from Madras and also during Troyer's subsequent stay at Paris is proved by the fact that Troyer accompanied Lord William Bentinck when he returned to Bengal on his appointment as Governor-General.

¹ The enquiries which my friend Colonel Reginald Schomberg, British Consul General at Pondicherry, was kind enough to make at my request both at Pondicherry and at Madras, have failed to trace any record relating to Troyer's marriage.

Sir William Foster's memorandum shows that the list of persons permitted to accompany Lord William Bentinck, the Governor-General designate, to Bengal, as contained in the Court of Directors' despatch to Bengal, dated 28th December, 1827, includes 'Captain Anthony Troyer on the half-pay of the 2nd Ceylon Regiment (an error for 4th Ceylon Regiment) as Aid de Camp'. In the same memorandum Sir William Foster adds the following: "The India List shows him in this post during the whole of Lord William's tenure of the Governor-Generalship. He is not shown as acting in any other capacity, nor can I find him mentioned in the letters from the Government of India to the Court of Directors. I believe, however, that the Calcutta Sanskrit College was not under the direct management of the Government, and it is possible therefore that Troyer may have had some connection with that institution without official notice being taken of it."

Mohl states that Troyer took charge of the 'Brahmanical College' at Calcutta before Lord William Bentinck left India and directed it until his own departure in 1835. Information kindly communicated by the Keeper of the Records of the Government of India shows that Troyer was Secretary to the Government Sanskrit College, Calcutta, up to January 1835. This confirms the statement made by Troyer in the Preface to his translation of the *Kashmir Chronicle* as to his having held the post of Secretary to that College where certain Pandits were employed for correcting the proofs of Sanskrit texts which were being published at the expense of Government. In the same Preface Troyer mentions having left Bengal in February 1835.¹ Among the various manuscript materials which Troyer is stated to have brought back on his return to Paris as fruit of his scholarly labours at Calcutta, were those he had prepared for his edition of the Sanskrit text of *Kalhana's Chronicle of Kashmir* and his translation of the same.

We have no exact information as to when Troyer's study of Sanskrit had started. Nor do we know to what extent his interest in India's classical language and its vast literature may have been stimulated by the influence of such great scholars as Horace Hayman Wilson, James Prinsep, Csoma de Körös whom Calcutta could claim at the time of his own stay there. Wilson had been the first to acquaint European students with the general character of *Kalhana's Chronicle of Kashmir* by publishing in 1825 a critical abstract of its first six cantos. It was James Prinsep, the famous decipherer of Indian inscriptions

¹ Colonel Phillimore points out to me that as Lord William Bentinck's departure on relinquishing charge as Governor-General of India took place on March 25th, 1835, and, perhaps, counted from his embarkation at Madras, it is possible that Troyer accompanied him on the homeward voyage.

and coins, who, if Mohl's statement apparently based on a communication of Troyer can be trusted, made it possible for the first edition of the text, very imperfect as it was, to appear in print at Calcutta in 1835. Either of them might well have drawn Troyer's attention to the importance of the Chronicle.

I have already in my introductory remarks had occasion to point out that Troyer's equipment was inadequate for the difficult task which he had undertaken and to which he devoted himself with such assiduity for many years. A quasi-pathetic proof of this was afforded to me by a letter written by Troyer from Paris on 5th June, 1845, to Professor Horace Hayman Wilson which my friend the late Mr. A. H. Wilson allowed me to see and copy from his grandfather's very valuable store of correspondence. It deals mainly with his labours on the Kashmir Chronicle.

Referring to his translation Troyer says that he is 'undergoing a hard struggle with the two languages, Sanskrit and French', and expresses his belief that the two last cantos he was engaged on translating are not the work of Kalhana. In reality this is the most authentic and critically valuable portion of the author's historical record, but rendered often difficult by the lavish display of characteristic rhetorical skill specially appealing to Indian scholars' taste. On reading that letter, written by Troyer in his seventieth year with a remarkably clear strong hand, I felt much impressed with the remarkable perseverance which enabled the aged scholar to complete his 'arduous work', as he calls it, seven years later.

The only other work which was published by Troyer after his final retirement to Europe, was an English translation of the *Dabistan or School of Manners*, a Persian treatise of which David Shea had finished two-fifths and which Troyer completed with notes and an elaborate preliminary discourse. It was published in 1845 on behalf of the Oriental Translation Committee. It deals principally with the religious doctrine patronized by the Emperor Akbar. M. Mohl emphasizes the thoroughness with which manifold problems raised by this curious work are treated in Troyer's introduction but expresses no definite opinion as to the solutions proposed for them.

As Mohl tells us, Troyer continued to pursue his scholarly labours all through the long years of his remaining life spent in Paris, but published none of their fruits. This bears out Mohl's description of Troyer as a man wholly indifferent to fame and content to satisfy his interest in study for its own sake. From the record at Somerset House of Troyer's last will which Colonel Phillimore inspected, it is seen that he died at Royaumont on the 2nd June, 1865, in his ninetieth year, leaving two married daughters and a son (under interdiction). His wife had predeceased him.

We are told by Mohl that the tranquillity of his spirit in old age was such that neither good nor bad fortune could disturb his serene composure. Yet he seems for all that to have retained to the end a bold independence of opinion, which the perfect calm of expression made all the more striking. He is said to have faced undisturbed whatever personal losses and disappointments befell him, heavy as they seem to have been. It is hence pleasant to think that the British half-pay which good health allowed him to draw for fully fifty years, spared him serious material cares. It was a reward well deserved by the services he had rendered in India and by his devotion to India's intellectual interests.



Survivals of the Indus Culture.

By M. E. and D. H. GORDON.

(Communicated by Dr. B. S. Guha.)

The intention of this article is to indicate certain survivals from the Harappa and Jhukar cultures of the Indus Valley over to the Early Historic Period,¹ and at the same time put forward certain objects as deriving from that apparent cultural hiatus of approximately two thousand years.

When one comes to examine the objects from Harappa, Mohenjo-daro, and Chanhudaro in the light of material collected from thirty mounds in the Peshawar, Mardan, Rawalpindi, Lahore, and Montgomery Districts, all demonstrably of the Early Historic Period, certain interesting facts emerge. The small dating value of such objects as shell bangles, knob handled pot-lids, etched carnelian beads, all of which are to be found quite commonly in these sites, impresses itself on one immediately. Nor do these objects show much change: the pot-lids which are made in thousands to-day, are unaltered, shell bangles of both periods show a large range of width and thickness, carnelian beads are etched with very similar patterns, the framed Greek Cross being found at Taxila and Sahri Bahlol. In addition to these objects, Painted Pottery, as such, is found on every one of the thirty mounds mentioned, and is made to-day in all of the five districts in which these mounds are situated.

This does not mean that there is no distinction to be made between the painted pottery of the three periods, pre-historic, early historic, and present day, there are in fact more differences than there is similarity: the similarities with the later types being more readily traceable in the early pottery of Baluchistan and Makran than in the early Indus Valley types. This point requires however a great deal more investigation before any useful theories can be advanced.

Over and above these more common objects, resemblance between which might well occur without having very much significance, there are a number of other articles in which the persistence of type over the great period of time postulated, say about two thousand years, is less easily explicable, and which may possibly be of the greatest importance.

¹ The expression 'Early Historic Period' when used in this article refers to the period from the beginning of the Mauryas to the end of the Guptas, i.e. 322 B.C. to c. 500 A.D.

The first of these is the image of a bird with extended wings on a pedestal. These are common at Harappa where we examined twenty-four of them. Plate 4, fig. 1 shows one of them. Alongside this is shown a similar object, found on the surface at Bala Hissar near Charsadda in the Peshawar District. The concept is identical and also much of the execution. They are both birds with spread wings, ornamented with incised lines to indicate plumage, balanced on pedestals. The particular example from Harappa was found at Mound F only five inches below surface, one similarly incised was found at six feet below surface at the same mound, and yet another at five and a half feet below surface at Mound A-B. Bird figures on pedestals with closed wings are found both at Mohenjo-daro and at Sari Dheri, Charsadda Sub-division. The examples from Sari Dheri and the Bala Hissar date quite definitely from the Early Historic Period.

The familiar bird whistles found at all the Indus Valley sites provide the next example. A fat semi-globular bird again balances on a pedestal, having a whistle hole just above its tail. Plate 4, fig. 3 shows an example from Harappa: alongside it is a bird rattle from Sirkap, Taxila, the shape, pedestal and general style are, allowing for its rather chipped condition, identical. Grouped with the bird whistles of this type at Harappa is one found by Daya Ram Sahni in the early days of exploration there: it has no pedestal and the whistle hole, working on a slightly different principle, is in the head: along the back is a ridge rising like a cock's comb in a series of points. We have an identical one which was made recently by wandering nomads. The Harappa specimen, a surface find, is of course modern and of the same origin, but the clay bird whistle is thereby shown to exist to this day.

The next instance is possibly more peculiar than convincing. At the site of Bala Hissar in particular, a large number of figurines of an archaic type, which can now confidently be dated 200 B.C.-300 A.D., are found cut in half down the centre; in some cases it appears to be quite definite that they were deliberately cut through in this way. We were therefore surprised to find in the Harappa museum a number of figurines both male and female which had been treated in exactly the same way, Plate 5, figs. 1 and 3 show examples from both sites.

The majority of Harappa female figures, those of the Jhukar Period, if they exist, have yet to be identified, have a fan-shaped headdress. Primitive figures from Sahri Bahlol which are almost certainly of Kushan date also have a fan-shaped headdress, and so has a Hellenistic head from Taxila (Plate 4, fig. 5 and Plate 5, fig. 2).

Among the designs on the curious copper tablets from Mohenjo-daro, having a design on one side and an inscription on the other, is an elaborate looped figure. An identical figure

is to be found on a terracotta stamp-die and a terracotta stamped tablet from Taxila (Text-fig. 1). Of a similar style to this

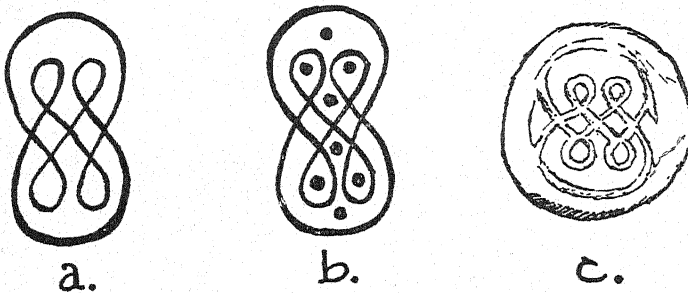


Fig. 1. Continuous looped designs from (a) Mohenjo-daro and (b) and (c) Taxila.

is an intricate pattern on the left of the seal inscription shown in Pl. XXIII, fig. 6, *Arch. Survey of India Report*, 1930-34. A similar design is cut in the floor of the main sanctuary at Kailasa, Elura, and designs of this type are made down to the present day. Regular continuous designs have a wide distribution and a long history, and their diffusion in the Melanesian region, attested by the late Mr. Deacon's work in that area, may be one of the links by which the scripts of Mohenjo-daro and Easter Island hang together.

From Akhkari Dheri, Risalpur, Peshawar District comes a potsherd having on it a peacock, conventionalised, so far as can be seen, in the same way as those on the burial jars at Harappa, particularly as regards the egg-shaped cross-hatched body. Plate 6, fig. 1 shows this sherd with added reconstruction, wings and fan-shaped tail are both clearly indicated in the surviving part, the only conjectural feature being the peacock crest, the fan-shaped tail is however a justification for its possible correctness. From Taxila comes an urn lid from the Mahal area near Sirkap with a design of cross-hatched segments, trees, and peacocks, which definitely associate it with similar lids on burial jars at Harappa. The date of the jar burials at Harappa is at present a matter for conjecture. The style of painting has but the very slightest resemblance to that of the Harappa Period; besides which, as we have observed *in situ*, the Harappa pottery, both plain and painted, accompanies the extended burials.

In the Harappa museum are animal figurines very closely resembling a pig made out of a lemon and four sticks. A figurine exactly of this type, except that it is covered with incised decoration, was found at Sari Dheri. From Chanhudaro also come small four-legged pottery stands supposed to have been used for cosmetics. These have their exact counterpart

in small four-legged blue schist stands from Buddhist sites all over the Gandhara region. The strange fragments of very thick sectioned pottery with deeply incised patterns found at Mohenjo-daro can also be closely paralleled from these sites.

Finally, Dr. C. L. Fabri, in his article on 'Latest attempts to read the Indus script',¹ discussing the possible use of copper tablets from Mohenjo-daro as coins, suggests a similar use for the seal impressions. These he holds are a forerunner of the punch-marked coins, as 'a form of stamped obligation to pay a sum'. There is much to be said for this idea, but in our opinion there is a more striking survival of this usage than the punch-marked coins. From many mounds in the N.W.F.P., but particularly from Kula Dheri near Charsadda, there come small baked tokens each marked with a seal impression made by the typical intaglio seals of the period 1st Cent. B.C. to 3rd Cent. A.D. We have more than thirty of these, of which quite two-thirds come from Kula Dheri, indicating their existence in very large numbers. These baked clay sealings are, we feel certain, tokens issued by merchants, and therefore had the same function as is assigned by Dr. Fabri to the seal impressions at Harappa and Mohenjo-daro.

Though no very definite conclusions can be arrived at by evidence of this kind, two points stand out very clearly. The first is the rejection by any reasonable mind that these striking similarities are quite fortuitous and in no way related, the Indus types having perished without immediate successors round about 2200 B.C., only miraculously to reappear two thousand years later, from about 200 B.C. onwards. The second is that the interpretation at the Indus Valley sites of the first ten feet of deposit, which, through quarrying, erosion, day to day complication by objects dropped down holes and recovered by earth and misplaced in countless other ways, is so difficult and yet so important, has been a complete failure.

It has been reiterated constantly that there must be links to fill this gap of two thousand years, and it has been urged that digging at such sites as Kosambi and Ramnagar would produce such links.² Mohenjo-daro, Harappa, and Jhukar all have plentiful remains of the Early Historic Period on the surface. It is true for the reasons we have given, that the upper levels of these sites are more difficult to handle than would be the case with the lowest levels of Kosambi or Ramnagar, but it is unfortunate that because of these complications no real effort has been made to reconcile a number of unaccommodating objects with a more acceptable chronology.

¹ *Indian Culture*, Vol. I, No. 1.

² In particular by Sir Leonard Woolley in his report upon Archaeological research in India, where he stresses that further work on the pre-historic sites should be postponed and effort concentrated on bridging this gap.

We must refer yet again to that outstanding article by R. Heine Geldern, 'Archaeological traces of the Vedic Aryans',¹ which is the first really valuable contribution to knowledge on this subject. In linking up Tepe Hissar IIIc, with Transcaucasia and Turang Tepe and establishing a definite date for the adze-axe at Mohenjo-daro, and at the same time its spread via the Caucasus and North Persia, he produces the evidence of animal headed pins and also objects which he terms double animal protomes. Such objects exist at Harappa and Mohenjo-daro.

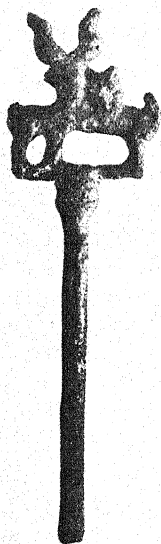


Fig. 2. Animal Headed Pin from Harappa.

From Mohenjo-daro comes a double headed pin very similar to the type found at Tepe Hissar, dated by Heine Geldern to the IIIc, phase, and from Harappa a pin or rod having a wolf attacking an animal with spiral horns placed on a cross bar. The former was found at the D.K. area at twelve feet below datum and the latter at Harappa one foot below surface and so immediately comes under suspicion (Text-figs. 2 and 3). The style of the Harappa pin is very similar to some from Tepe Hissar and also to

a gold Ibex from tomb IV Mycenae which can be dated to the second half of the 16th Cent. B.C. (Bosser's *Ancient Art of Crete*, fig. 191). At Harappa we found a double animal protome in terracotta almost identical with Heine Geldern's Transcaucasian example; it is in poor condition though quite recognisable by its two heads and curious shape. These few objects may not seem very impressive but they are even less so when suitably kept in the background; they indicate, however, the presence of material which is referable to the middle of the second millenium B.C. at the earliest.

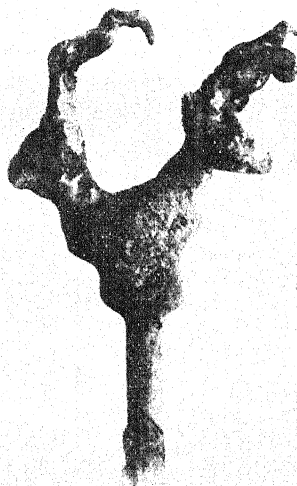


Fig. 3. Double Headed Pin from Mohenjo-daro.²

¹ *Journal of the India Society of Oriental Art*, Vol. IV, No. 2, December 1936. Already quoted by us in our article in *Iraq*, Vol. VII, pt. 1, 1940.

² Figs. 2 and 3. Published by Courtesy of the Archaeological Survey of India.

In addition doubt may reasonably be cast on the dates as now assigned to the following objects:—

- (a) The steatite bearded head with the trefoil robe which has the most striking resemblance to figures of the Sangari and Kadshi, Asiatics on the chariot of Thothmes IV,¹ and is therefore quite possibly not earlier than the first quarter of the second millenium.
- (b) Seal from Chanhudaro, Jhukar Period, showing antelope and flower, is of an Eastern Mediterranean style not earlier than Middle Minoan III, second quarter of the second millenium.
- (c) Seal from Chanhudaro, Jhukar Period, showing ibex, having North Persian affinities similar to the double animal protomes and animal headed pins, dateable to the second or third quarter of the second millenium.
- (d) The shaft-hole hammer-axe from Chanhudaro, not to be dated prior to 1800 B.C.²
- (e) The famous bronze adze-axe with tubular collar, dated by Heine Geldern to 1200–1000 B.C., but in any case not older than the middle of the second millenium.
- (f) The two Harappa statuettes of red limestone and dark grey slate, which cannot by anyone who has held them in their hand and examined them closely, and has a fairly unbiassed mind, be assigned to any date earlier than the 3rd Cent. B.C. at the earliest.
- (g) The terracotta head with moulded bearded face and high pointed cap, found somewhere in the Mohenjodaro D.K. area, which we assign without any hesitation to either the Indo-Parthian or Kushan Periods.³

To these must be added the fact that at Harappa there is a great deal of painted pottery which shows no affinities with that of the 'Harappa Period' but may be of the same period as the burial jars and to which as yet no date can be given, but which must be located somewhere in the two thousand year gap. Painted pots of Jhukar type and pots of Jhangar ware are also non-existent at both Harappa and Mohenjodaro; and though flooding and consequent abandonment of the site at that period may account for the lack at the latter place, it is obvious that

¹ *Vide* fig. 2, page 25, 'The Aryans' by Prof. Gordon Childe.

² For illustrations of (b), (c) and (d) see *Illustrated London News*, November 1936.

³ *Vide* text fig. 2. Mohenjodaro, some observations on Indian Pre-history, *Iraq*, Vol. VII, pt. 1, 1940, by M. E. and D. H. Gordon.

these terms have only very local application as they are also inapplicable to the pottery of Makran or the Zhob.

The sum total of these trifles is not to be ignored, if indeed they are as trifling as some appear to consider. In any case objects have been shown to exist which indicate that there are a number of definite survivals from the pre-historic to the early historic period. The important point which follows unquestionably from this basic fact is that if they are survivals they must be connected. Objects have also been shown to exist which in our opinion indicate quite clearly that the apparent blank hiatus is only the result of inadequate research. ¹

Up to date the chronological yardstick of the Early Historic Period has been the successive types of stone statuary, their treatment and their ornament, about which there can be but small differences of opinion, such as whether the large early Yakshas are really Mauryan or post-Mauryan, and whether the Buddha image of Gandhara is older than that of Muttra. The measure for the pre-historic period is derived solely from links with the early chronology of Iraq. At any rate both these periods have a basis of fact for any chronological arguments advanced; this is not so in the case of the hiatus. Here we find that the measure is the period of time which various pundits and philologists consider must have elapsed for the production of certain scriptures and the development of certain religious ideas. Added to which are some notable speculations, such as whether the pole star was sufficiently in evidence at some not very well fixed period, for it to be taken as an image of constancy. All such fantasies, including the arrival of the Vedic Aryans from the North Pole about 30000 B.C. and their existence in another Yuga when the Universe presented a different aspect, are profitless conjecture. The truth is that so far as India is concerned we have no measure for this period and but very few facts on which to form one.

The Indo-European names found in the archives of Boghaz Keui and 18th Dynasty Egypt have only the vaguest value in determining the period and progress of the Aryan occupation of Northern India; for Vedic India is by tradition Northern India, and it is there that search must be made to fill the gap in our knowledge. So far nothing has been done which has yielded very concrete results, a summary of this material, real or hypothetical as has yet to be determined, may prove to be of some interest. Firstly, there are the few objects which we have mentioned above as being almost certainly of middle second millennium date, found for the greater part in the upper levels of pre-historic sites, those first eight or ten ambiguous feet. To these may be added the copper and bronze objects put forward by Heine Geldern in his article, namely the Truncheon Axe from the Kurram, the Punjab Dagger, the Bithur Dagger and Harpoon head, the Fathegarh Swords and the Rajpur Harpoon,

all of which together with the Mohenjo-daro Adze-axe he refers to the period 1200-1000 B.C. Besides these there are only the ancient walls of Rajagriha, the 'Vedic' burials of Lauriya Nandangarh, the punch-marked coins, the various terracottas which from time to time have been loosely classified as Primitive and Pre-Mauryan, a good deal of painted pottery about which so far but little is known, and the somewhat meagre knowledge we possess of the ancient sites of the Punjab and the N.W.F.P.

For the Walls of Rajagriha and the Nandangarh burials a date of 800 to 700 B.C. is claimed, which may prove to be correct in the case of the former, but the mounds of Lauriya Nandangarh have been examined by Mr. N. G. Majumdar; four of them were cleared of earth until the underlying structures were revealed, these proved to be Buddhist stupas possibly of early date. The gold leaf female figure, thought by Bloch to be an Earth Goddess, came from a trench on the top of this recent work and is therefore not of Vedic date and probably Post-Mauryan. I have purposely omitted any reference to the Megaliths and Cairn burials of Southern India and Hyderabad, as I consider that the North is the region where links must be found if they are to carry conviction. The Megalithic remains of the North, Burj Hama in Kashmir (*Antiquity*, June 1937) and Asota in the N.W.F.P. (*Antiquity*, December 1939), afford but little help. The former is extremely 'sui generis' both as regards the monument itself and the remains which have been excavated there. The latter may well be of no very great antiquity and at the moment there is nothing available to support a contention either way.

Punch-marked coins we feel need to be handled with caution. It is undeniable that many if not the majority of the symbols on them have their counterparts in the Indus Valley script. These symbols are therefore almost certainly survivals, but after what lapse of time, that is the question. Here we need to go warily, for in quite early literature these coins are known as 'purana' and that is quite sufficient for many Indian archaeologists to date them back indefinitely. To us it is plain however that the term purana (ancient) is of exactly the same value as when the present day owner of a battered Moghul copper coin tells you that it is a Sita-Rami, nine hundred lakhs of years old, which merely means, that in his opinion it is very ancient; that is to say, as proof of any particular dating the term 'purana' has no value at all. A very clear exposition of the evidential value of the punch-marked coins and their symbols is given by Dr. C. L. Fabri in his article 'A new branch of knowledge in India'.¹

The question of the Pre-Mauryan terracottas is still being worried out. So far not one single terracotta from any level of any site of the Early Historic Period can be shown con-

¹ *Indian Culture*, Vol. III, No. 1.

clusively, even by the unreliable method of archaeological dead-reckoning, let alone association with definitely dateable objects, to be of Pre-Mauryan date. As for the criterion of style, unless backed by conclusive parallels with material of known and accepted date, considerable familiarity with many hundreds of Early Indian terracottas makes us regard this method as on the whole worse than useless. The primitive and the archaic can again and again be shown quite conclusively to be the result of ineptitude and degeneration. Hellenistic Indo-Greek may turn out to be Hellenistic Indo-Roman of the early Imperial period when Greek art was 'the thing'. There are in fact a multitude of unappreciated pitfalls.

Of all the archaic terracottas those found in the Gandhara-Taxila area with applied and incised eyes are the most intriguing. They can now be shown as coming from fourteen sites in British India as well as others in Afghanistan and Tribal Territory. I cannot with propriety at this stage say more than that excavation at Sari Dheri¹ revealed such figures throughout the section from two feet to thirty-five below datum in the main mound, and at 40½ below datum and 9½ below surface at an adjacent point originally covered by the mound. As a Hellenistic moulded torso was found in the main mound at 37½ feet and a Menander coin at 32 feet² below datum, it is unlikely that anything found is older than 200 B.C. This, of course, does not rule out the possibility of finding them with yet earlier associations.

There is one point, however, that needs clearing up once and for all, and that is the possibility of these figures being in direct succession to those of Harappa and Mohenjo-daro. In point of fact, though it would be most helpful and convenient to believe otherwise, the figures under discussion have no real resemblance to those of the Indus Valley sites. In particular we wish to pin down this matter of applied and incised eyes. Though Mlle. Corbiau states, and we are sure and assured states quite accurately, in *Iraq*, Vol. IV, Spring 1937, that 'Dr. Mackay tells me that among the unpublished material of Mohenjo-daro this feature is quite frequent', the facts are however as follows:

At Mohenjo-daro out of 510 human figures examined by us not one had applied and incised eyes. The example quoted by Mlle. Corbiau was noted and is a bearded head broken almost certainly from a man-headed animal. Of the man-headed animals, out of 61, four have applied and incised eyes, and one applied and indented. At Harappa out of 673 human figures

¹ Excavation was carried out at Sari Dheri during May, and October to December, 1938, by Mille, Simone Corbiau and Mr. Mukerji of the Archaeological Department. The results have yet to be published.

² As Kushan copper coins were found down to this depth the Menander is we feel a survival in a higher level than its true context, and it is probable that some of the square copper coins unearthed between 32' and 42' B.D.L. will be found to be Saka issues.

examined one had applied and incised eyes, and of the 13 man-headed animals, two only had this feature. This disposes finally and definitely of this convention being a survival characteristic of the pre-historic period.

Another point may also be touched on in passing, and that is that there is one figure only from both Harappa and Mohenjo-daro which has the smallest resemblance to the pre-historic female figures found at Periano-Ghundai and other sites in the Zhob. The latter are of fragile creamy white clay, and the ornaments, eye forms, headdress and general style of modelling are all totally dissimilar from the Indus specimens. The same lack of similarity being found in the painted pottery types, this material should be used with the greatest caution when looking either for the origins or offshoots of the Indus Cultures, both in time and space.

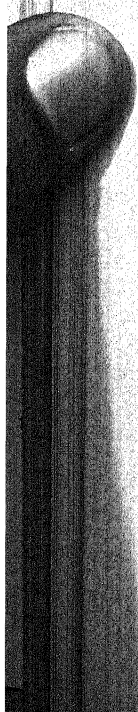
It would be rash to deny that none of the terracottas found at sites other than those containing remains of the Harappa Period is of Pre-Mauryan date, but none of them is demonstrably so. The Archaic types from the Frontier Province and Taxila and those from Muttra cannot be dated higher than 250 B.C. and it is unlikely that any of them are earlier than 200 B.C. The terracottas from Kosambi fall in line with those from Muttra, and the earliest types from Bhita and Basarh may possibly be Mauryan but are certainly not Pre-Mauryan. The material from Buxar has been treated in such a way that it is quite impossible to make head or tail of anything connected with this site.¹ The female figures with moulded faces appear to be Sunga and the primitive type with directly incised diamond-shaped eyes and small pursed-up mouth can be paralleled from Taxila. The alleged Pre-historic and Sumerian connections will need to be supported by the results of scientific examination before they can receive any serious consideration.

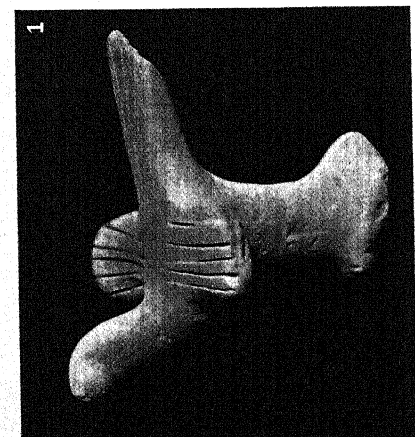
Surface investigation of sites is, to say the least of it, inconclusive. At the same time certain observations made in this way may be of some small value. The bluffs above the Soan River in the vicinity of the Attock Oil Company's Works are an example and a warning; here on the surface may be found any number of quartzite artifacts, a very few chert microliths, pottery of the Buddhist Period, and painted pottery, some of which may be as early as the 1st or 2nd Cent. A.D., but most of which is almost certainly modern. A site near Taxila produced one very finely struck micro-core of chert; wide and careful search failed to produce further traces of this material. The site yields plenty of painted pottery, all of it

¹ Remains of a Pre-historic Civilisation in the Gangetic Valley by Dr. A. Banerji-Sastri in the K. B. Pathan Commemoration Volume. The references in the text have no relation to the numbers on the very indifferent plates. The text is modelled very closely to that of A. K. Coomarswamy's article in *Ipek*, 1927.

dated to the early centuries A.D. if not later. The Akbar mound near Gugera, Montgomery District, about thirty miles from Harappa, though a vast mound with deep eroded channels in it, does not show a single sherd of Harappa type, though there is plenty of pottery, including painted pottery, of Buddhist, Mediaeval, and Mohamedan times. At Harappa however unmistakeable 'Harappa' types are in profusion both on and close to the surface. At first sight this does not appear to get us anywhere, but it does lead us to one important point. Painted pottery in India, without critical knowledge of patterns, shapes, colours, slips and texture, is quite meaningless, and even the presence of an odd chert flake does not make a pre-historic culture. We were under the impression that the word chalcolithic indicated the co-existence of stone and bronze implements, yet sites have been called chalcolithic simply on the strength of some painted pottery almost certainly of the historic period and not necessarily the early historic period at that.

Enough we hope has now been said to show that a blank hiatus of two thousand years in Indian culture does not exist, and at the same time give some tentative indication of the links available, and the pitfalls that await the investigator over this line of country. It is to be feared that it will be possible to add but little to this until there has been more and better digging.



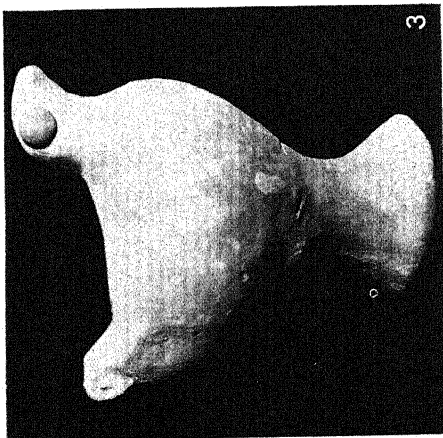


1



2

FIGS. 1 & 2. Pedestal Type Birds. (1) From Harappa (2) From Bala Hissar.



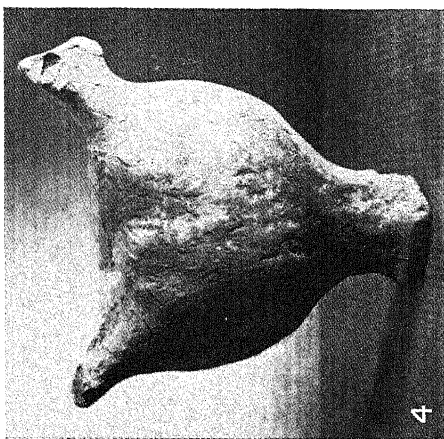
3



5

FIG. 3. Bird whistle from Harappa.
" 4. Bird rattle from Taxila.
" 5. Hellenistic Head with fan-shaped headress, Taxila.

(Figs. 4 & 5 published by the courtesy of the Archaeological Survey of India.)



4

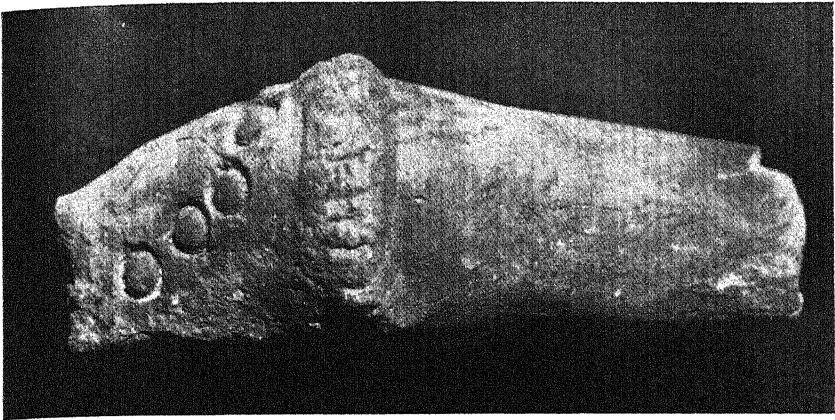


FIG. 3. Divided Terracotta figurine
from Bala Hissar, Charsadda.

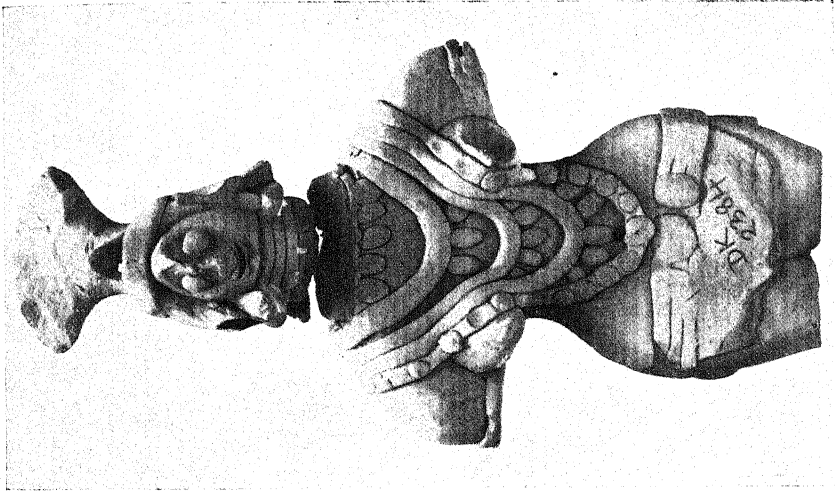


FIG. 2. Female figurine with fan-shaped head-
dress, Mohenjo-daro.
(Published by the courtesy of the Archaeological
Survey of India.)

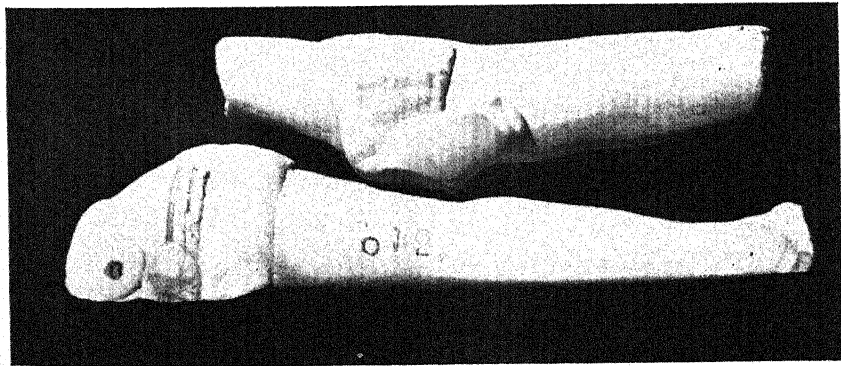


FIG. 1. Divided Terracotta figurines
from Harappa.



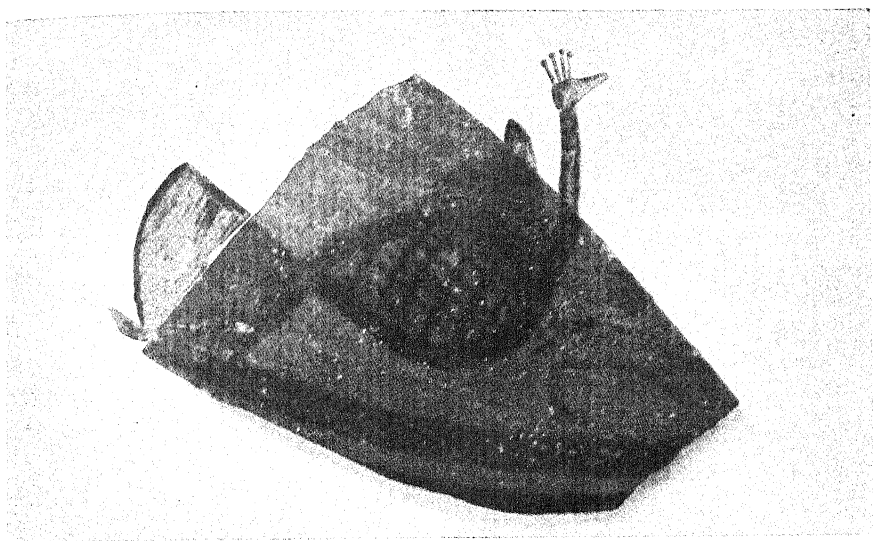


FIG. 1. Potsherd with peacock design, Akhkari Dheri, Risalpur.

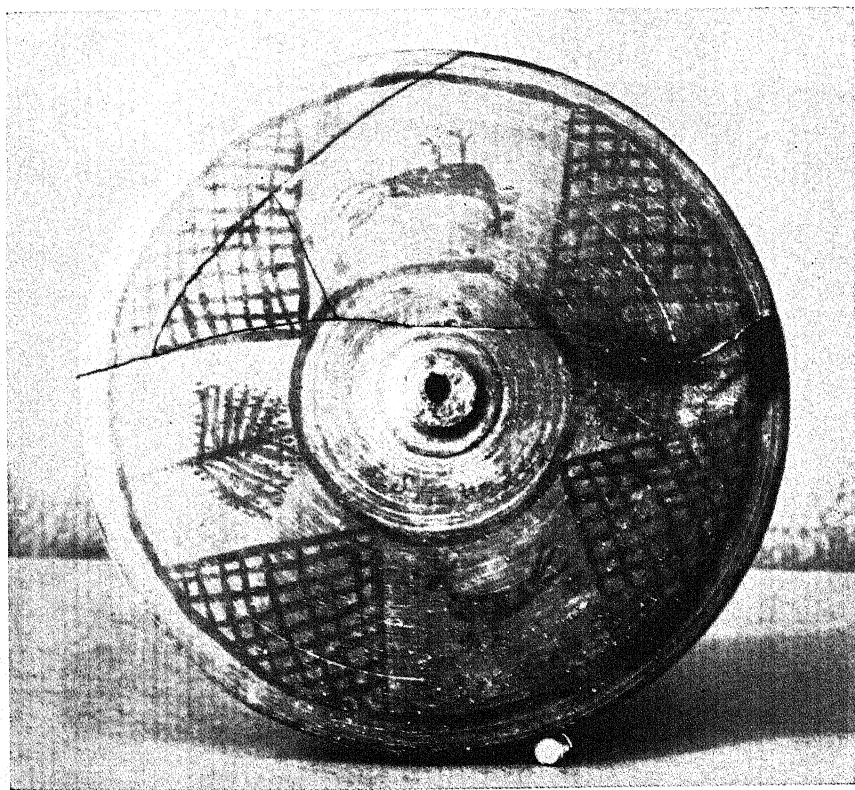
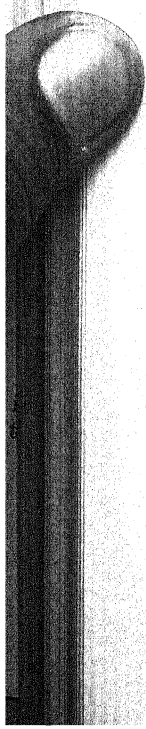


FIG. 2. Pot lid with peacock design, Taxila.

(Published by the courtesy of the Archaeological Survey of India.)



**Some Observations on Two Copper-plate Grants from
Bhāṭerā, Sylhet District, Assam.**

By UMESH CHANDRA CHAUDHURI.*

(Communicated by Mr. J. C. De.)

About the Bengali year 1279 (1872-73 A.D.), two copper-plate inscriptions were found on a hillock in a village known at present by the name of Bhāṭerā in the District of Sylhet, Assam. This village lies at the eastern foot of a small hill, extending north and south from Maurāpur on the southern bank of the Kuśiārā river to the northern bank of the Manu, and spreading over an area of about twenty miles in length and between three and five miles in breadth, interspersed with several small hills about fifty to two hundred feet high, all covered with dense jungle.

Along the eastern side of the hill (known in the records of the Forest Department as the Bhāṭerā Hills) and just by the side of the Sylhet-Kulaurā branch line of the Assam-Bengal Railway, between the mile-posts $\frac{21}{5}$ and $\frac{21}{6}$ lies what was to all intents and purposes a deserted hill-fort, with brick-built stairs to reach the level of the fort. At the present moment however there remains little of what must once have been a magnificent structure.

In the Bengali year of 1279 (1872-73 A.D.), a local zemindar, the late Babu Kāśī Chandra Chaudhuri arranged to collect old bricks from the above-mentioned fort for some constructional works in his house. One of his men employed on the task, came across the two copper-plates, placed one above the other, in course of digging. Some five or six years later, after the death of Kāśī Chandra, the plates passed into the hands of his youngest brother, Babu Jagat Chandra Chaudhuri. Facsimile impressions of them were sent to Dr. Rajendra Lala Mitra, the then Secretary of the Asiatic Society of Bengal. The inscriptions were transcribed by Panditā Ramā Bāi and her brother Śrīnivāsa Śāstri and the whole was published by Dr. R. L. Mitra with a short note, English translation and facsimiles in the *Proceedings of the Asiatic Society of Bengal* for August 1880.

The plates are now preserved in the Archaeological Section of the Indian Museum, Calcutta.

* The author expresses his gratitude to Mr. R. K. Ghoshal for kindly revising the paper.

As has been said already, it was Dr. R. L. Mitra who published a comparatively full and critical edition of the two grants. These were next discussed by scholars like the late lamented Pandit Padmanath Bhattacharya and Dr. K. M. Gupta in the periodical press of Sylhet and Calcutta. Dr. Gupta further re-edited one of the plates (that of Keśavadeva) in the *Epigraphia Indica*¹.

In the present paper I have endeavoured to discuss the two records afresh in the light of such local and topographical knowledge as I have been able to collect by a long and continued residence in the District of Sylhet very near to the find-spot of the inscriptions concerned.

Locality.—As we have stated above, the plates were discovered from the ruins of a fort on a hillock or *ṭilā*. The hillock is about 150 feet high, the highest level portion measuring about 400 feet from east to west and about 200 feet broad from north to south.

The eastern side of the hillock has even now distinct traces of extensive long and broad stairs made of bricks. These stairs, commencing from the upper portion of the hill-fort, go down to the bank of a tank which is about 600 feet long and 300 feet broad. The tank at present goes by the name of Sātpāḍi Pukur (i.e. 'tank with seven banks'), whatever that may imply. The Sylhet-Kulaurā branch line of the Assam-Bengal Railway runs by the western bank of this tank separating it from the stairs-system of the hill-fort referred to already. There are traces of another old tank a little to the north-west of the hill-fort which now passes under the name of Baḍa Pukur ('the big tank') and which is about four times larger than the Sātpāḍi Pukur.

The southern and western sides of the hillock permit an easy access, but the northern side is steep and difficult to negotiate. Considering the enormous extent of the ruins on the hill, it may well have represented the royal palace of the kings of the Bhāṭṭapāṭaka line.

Towards the north of the palace or hill-fort, within half a mile, there is a smaller hillock which goes by the name of *Homer ṭilā* (i.e. the mound for the performance of *Homa* rites). At the foot of this *ṭilā*, there is a tank about 150 feet long and 90 feet broad. The *Homer ṭilā* is about 50 feet in height and approximately 100 feet in length and breadth, though not exactly squarish in shape. At the central part of the upper portion of the hillock, there was the sacrificial pit (*Homa kuṇḍa*) built of the same type of old red bricks. The pit itself was $3\frac{1}{2}$ cubits in length, breadth and depth.

About two or three furlongs to the north of the *Homer ṭilā* we come to what are called the Darbāri *gul* and the Darbāri

¹ Vol. XIX, pp. 279 ff.

ṭilā. The latter stands in the centre of a plain. It is about 20 feet high, 90 feet long and 60 feet broad. Here the royal personages of Bhāṭṭapāṭaka would seem to sit with their officers in a position overlooking the multitude that would gather over the extensive plain. The very appearance of it points to the probability of its having been a very suitable place for holding royal *darbars*. By the north and south of this plain run two small streamlets: The one by the north side has dried up long since, but the southern stream which now bears the name of Phulchhadā is still active.

About a mile off, to the east of the Darbārī *ṭilā*, are the Dakṣiṇā *Kāndī* and the Dakṣiṇā *bīl* to the east of which is the great Hākāluki *haor*. It was perhaps at this spot that King Keśavadeva performed the Tulāpuruṣa *yajña* referred to in the smaller inscription and distributed *dakṣiṇā*.

The plates and their purport.—Both the grants are records of gifts of land, houses, slaves, etc., to two household deities, probably of the royal family. The earlier and larger of the plates records a gift of 375 *hālas* of land, in 67 plots and 51 villages, scattered over the sub-divisions of North and South Sylhet, Habiganj and Karimganj and also partly in the plains of the Cachar District. Along with this land 296 houses and a number of slaves were given away in the name of Vateśvara Śiva by king Keśavadeva. Vateśvara Śiva has been mentioned as 'the Lord of Śrihaṭṭa' (*Śrihaṭṭa-nātha*) in whose honour Keśavadeva built and dedicated a number of temples.

The latter and smaller plate is a gift of two *hālas* of land to Kamalākānta Nārāyaṇa by King Īśānadeva, son of Keśavadeva, the donor of the earlier grant. Dwelling houses and fields included within the area were also given away to the deity and a lofty temple was built for Nārāyaṇa or Viṣṇu.

As regards the dates of the inscriptions a number of suggestions have been offered. The date on the earlier plate begins with *Pāṇḍava-kulapāl-ābda* followed by four numerals. Paṇḍitā Ramā Bāi and her brother Śrīnivāsa Śāstri read them as 2928, while according to Dr. R. L. Mitra it stood for 4328 corresponding to 1245 A.D. The latest reading is that of Dr. K. M. Gupta who puts the date at 1049 A.D.

We may now proceed to an examination of some of the interesting facts elicited by the records under discussion. For purposes of convenience, we have preferred to deal with the several points at issue under the following heads:

(i) *Alleged connection of the Bhāṭerā group of kings with those of Cachar and Āgartālā.*—There has been some inexplicable unanimity of views among some of our scholars on this particular point¹. The Bhāṭṭapāṭaka kings have long been

¹ See e.g., *Proc. A.S.B.*, August, 1880, p. 144; *Ep. Ind.*, vol. XIX. pp. 280 ff.

regarded as sovereigns of Cachar, the founder of whose dynasty is traditionally supposed to have been Ghoṭotkaca, son of Pāṇḍava Bhīma by Hīḍimbā, daughter of an aboriginal chief. As a matter of fact however, the available data point to a quite different conclusion: The people who now go by the name of Cacharis were originally settled in the Brahmaputra valley. Driven by the rising Ahom rulers, they betook themselves to Dimapur about 1531 A.D. Being still hard pressed by the Ahoms, they moved on to Maibong and thence finally to the vast plain of Cachar where they established their new home. They were essentially a community of uncultured hill-people having absolutely no alphabet whatever and as yet entirely uninfluenced by Sanskrit culture. It was in fact not till after the 16th century of the Christian era that the people of Cachar were converted into Hinduism and it was about this period that the legend of a Pāṇḍava extraction of their kings was concocted to keep up their pride.

It will thus appear that the dynasty of the kings of Bhaṭṭa-pāṭaka and those of Cachar were far too separated from each other in point of time—by three or four centuries to be sure—to allow us to accommodate any theory as to their being mutually related.

As regards the Āgartalā kings, it is well-known that their dynasty originated from the Shān States of Northern Burma and their family title was originally the inconspicuous *Phāñ*. They entered Assam for the first time in 1228 A.D. It was about the first quarter of the 14th century, that some branch of them crossed the North Cachar Hills and passing the Lushāi and the Chittagong Hills, settled itself at Āgartalā¹. This branch was converted to Hinduism in the 16th century, i.e. about the same time as that of the kings of Cachar. They now changed their original family title of *Phāñ* into *Mānikya* which is current to this day. It seems therefore unlikely that the kings of the Bhāṭerā plates² had any family link either with those of Cachar or of Āgartalā.

What however looks more reasonable is to surmise that the kings mentioned in the Bhāṭerā inscriptions were a group of chiefs who wielded some influence in the country representing the modern district of Sylhet. This dynasty continued apparently for five generations after which it became extinct. Possibly it was only a result of the oncoming Muhammadan invasion of the country. Or it may have been that the last

¹ For the origin of the Cachar and Āgartalā kings, see E.A. Gait, *History of Assam*, pp. 242-43 ff.

² From the nomenclature of the family titles and the names of the persons, as well as most of the place-names mentioned in both the copper-plates, it appears that the land was a part of Bengal and the persons were Bengalees.

member of the line—Īśānadeva—died without leaving an issue and the dynasty came to a natural end¹.

(ii) *Tradition of alleged association of the Īter ṭilā and the Homer ṭilā with king Gauragovinda.*—The whole question appears to us to hinge on a mistaken identification and also perhaps an unwarranted word-interpretation. In the earlier of the Bhāterā plates (that of Keśavadeva), the donor king is described (ll. 9-10) as *ripurāja-śoṣi-Govinda-ity=ajani Keśavadeva eṣaḥ*², which has been almost unanimously taken as pointing to there having been a second name, *Govinda*, of king Keśavadeva³. If one may hazard an opinion on this point, the explanations of this epithet offered so far seem to be quite strained. In fact the whole phrase could conveniently be broken up into two distinct but inter-related parts: (i) *ripurāja-śoṣi-Govinda-ity=* and (ii) *ajani Keśavadeva eṣaḥ*,—meaning that king Keśavadeva is here regarded as having been the equal in might of Govinda (Lord Kṛṣṇa), the destroyer of enemies. Such expressions, as will be readily admitted, represent but a common epigraphic and literary convention of the age to which our record belongs.

It has further been assumed⁴ that the ruined mound called Homer ṭilā marks the spot where king Gauragovinda (*alias* Govindasimha) used to perform sacrificial rites. This assumption is of course a corollary to the supposition that Govinda is only another name of Keśavadeva. The explanation suggested by us, if accepted, will surely help to dispel such a notion. It should also be taken notice of that Gauragovinda of North Sylhet was conquered by Shah Jallal in 1384 A.D.

¹ It appears however from the later inscription (No. II, *Proc. A.S.B.*, August 1880, p. 153, ll. 25-28) that Īśānadeva had a childless elder brother (*sthavirah putrasūnyah*, l. 27) and that he had another brother who pre-deceased him leaving a widow and a son. No record has yet been discovered of this fatherless child. Perhaps even before he grew up to manhood the whole country was engulfed by the Muhammadan invasion.

² In the inscription of his son Īśānadeva, Keśavadeva is referred to (ll. 8-9) in almost identical terms, *viz.*, *ripurāja-śoṣi Govinda-vīro . . . etc.*

³ *Proc. A.S.B.*, August 1880, pp. 144, 151n; *Ep. Ind.*, vol. XIX, pp. 279 ff.

⁴ *Proc. A.S.B.*, August 1880, p. 144.

The Ancient Workers of Western Dhalbhum.

By E. F. O. MURRAY.

(Communicated by Dr. B. S. Guha.)

The Dhalbhum pergannah, which forms the most easterly portion of the Singhbhum district of Chota Nagpur, has long been noted for the multiplicity of ancient workings that occur therein. It has an area of nearly 1,200 square miles through which the copper belt runs roughly south-east to north-west for a distance of over 50 miles, quite half of which must be covered by old workings when parallel lines are taken into consideration. In addition to the copper workings the ancients have worked gold, both alluvial and quartz, in the southern and eastern portions, and soapstone, while numerous small heaps of iron slag are to be found scattered all over the pergannah wherever the ore occurs; the refuse of the local iron smelters, which industry still exists in the remoter parts up to the present day.

On its eastern border is the Midnapore district and the States of Mayurbhanj and Seraikela bound it on the southern and northern borders, while in the centre comparatively level or undulating country predominates, divided by the range of hills that follows the copper belt over the greater portion of the pergannah. The inhabitants of Dhalbhum consist mainly of Santals, Mundas and Bhumij with a sprinkling of Hos and Kherrias, all members of the group that must have been in possession of the greater part of Northern India in pre-Aryan days. Among the semi-Hinduized castes may be mentioned the Goālās (cowherds), the Kumhārs (potters), the Kammārs (blacksmiths), the Perehs or Tāntis (weavers) and the Mahles (basket-makers), the last four being essential to the existence of village communities. The Santals, Mundas and Hos all speak languages belonging to the Mon-Khmer group of the Austric languages of which Pater Schmidt found relics among the forest tribes of Pegu, Malacca and Indo-China, and along the middle Salwin, the Nicobars, and part of the Philippines and Oceania.

Ethnologically the Santals, Mundas and Kols all belong to the Proto-Australoid family which is widely distributed in Southern Asia and the Oceanian islands. Risley in his measurements of the various tribes obtained the following indices:

		Cephalic Index	Nasal Index	Stature
Munda (100)	..	74.5	89.9	1446
Santal (100)	..	74.5	88.8	1510
Kol (32)	..	72.4	82.2	1650

The specimens of the last, however, are stated by him to have eastern Hindi as their tongue, to live in the United Provinces, and to be of Aryo-Dravidian type. This cannot be taken as typical of the Kols of the Kolhan of Singhbhum whose language is allied to Mundari and Santali and with whom they have similar physical characteristics. Both the Mundas and Santals have legends about migrations from the west before the Aryan invaders, in times when Indian history was confined to legends; and in the *R̥g-Veda* frequent mention is made of the *Dasyus* or *Savaras*, the Aryan names for the original inhabitants of the country. Both Kolarian and Aryan traditions point to these tribes as having extended further to the north-west prior to the invasion and to having been gradually driven into the more southern and eastern hills as the Aryan invaders fought their way towards and down the Gangetic plain.

Roy¹ has traced the wanderings of the Mundas by their traditions and pointed out that many of the names of the enemies of the Aryans, mentioned in the *R̥g-Veda*, are to be found among the Mundas and allied tribes at the present day,—evidence that the writer is able to corroborate from further examples. That the aboriginal races were not mere savages is evident from the accounts of their organization, strong-built cities and forts which gave much trouble, while their wealth proved a source of envy to the invaders. From *Āzamgarh*, now in the United Provinces, Munda tradition commences, so it would appear that they must have remained for some time in this district, an assumption that is supported by Hindu tradition. By the reign of *Rāma Chandra* of *Ayodhya* the *Raj-Bhars* appear to have been the only tribe left at *Āzamgarh* and before the departure of the *Savaras*, or *Asuras* as they were then called, both Hindu and Munda traditions record a deluge. Gradually they continued their eastward march before the increasing hordes through *Bihar* into *Chota Nagpur*, but from their later temporary sojourn in *Rohilkhand* and further west the invaders would appear to have met with some reverses and the native races to have regained some of their terrain. This change of tide in their fortunes would seem to be confirmed by sepulchral cairns existing near *Nagar*, and attributed to the aborigines, representing two distinct stages of culture. In the first only stone implements and rough pottery are to be found, while the latter contains iron weapons and gold and copper ornaments.

The earliest foreign reference to the use of iron in India appears to be the description in *Herodotus*² of the Indian mercenaries in *Xerxes*' army in 480 B.C. who were clad in cotton garments and armed with bamboo bows and cane arrows with

¹ Roy, S. C.—*The Mundas and their Country*, Chap. I, 1912.

² *Herodotus*, VII, 65.

iron tips, which with the addition of axes form the complete armament of the aboriginals in modern times.

The Hos, or Kols, appear to have occupied Chota Nagpur from pre-historic times though they are reputed to have at one period ousted the Bhuiyas from Singhbhum and to have settled there, where the majority of them now are. Their prowess in the field earned them their name of Lerrka (fighter), by which they are known to the other tribes at the present day, and in their encounters with the British fully sustained their reputation until they realized that axes, bows and arrows could not seriously compete with firearms and cavalry.

Pliny in *Hist. Nat.*, quoting from Megasthenes, states that 'The tribes which dwell by the Ganges are the Calingae nearest the sea and higher up the Mander; also the Malli among whom is Mount Mallus, the boundary of all that region being the Ganges'. Mount Mallus is probably identical with Mount Mandar of the Vedas which lies near Bhagalpur and the Malli with the Mahle Paharias who occupy the Rajmahal Hills. The Calingae were the inhabitants of the kingdom of Kalinga, or Orissa, which, with lapses, preserved its independence from the earliest times until towards the end of the eleventh century A.D. when Kulottunga I added it to his dominions. That the Kolarian tribes were in this region in the sixth century B.C. is proved by records of the travels of Vardhamāna Mahāvira who was the twenty-fourth Tirthankara and main founder of the Jain religion in which it is stated that 'he traversed the country occupied by the Bajra Bhūmi and Sudhi Bhūmi (the modern Bhumij) who abused and beat him and shot at him with arrows and barked at him with dogs, of which small annoyance he took no notice'.

As a detailed account of the geology of the district does not come within the scope of this paper this subject will be dealt with as briefly as possible. Singhbhum is composed mainly of Archaean rocks. In Dhalbhum the Dharwar complex is represented by lava flows in various stages of metamorphism, phyllites, slates, talc, hornblende and micaceous schists and quartzites. This period was followed by intrusions of granitic batholiths, which in their turn were invaded by doleritic dykes of varying basicity, whose extent is generally limited by the perimeters of the acid intrusives. The Dharwars are the main seat of the Indian metalliferous ores, most of the gold, copper, iron and manganese produced in the country being connected with them. Copper, having been the cause of by far the greatest proportion of the ancient and more modern workings, this will be dealt with first.

The Singhbhum copper belt, which starts from 5 miles north of Chakradharpur in the west and runs through the States of Kharsawan and Seraikela, enters Dhalbhum between the villages of Keryuadungri and Rangadih where old and

more recent workings show three more or less parallel runs of ore. Further east between Talsa and Nandup and on Chandar Buru these veins have been extensively mined by the ancients, and in more modern times by the Singhbhum and Hindustan Copper Companies, of whose activities Stoebr, Durrschmidt and Schenck have left records.¹ On Chandar Buru old workings are very numerous on three lines of ore: while extensive old workings occur between Talsa and Turamdih on the southern line; on the centre and southern lines near Sideswar, to be described later, and others further east beyond the limit of this article at Surdah and Mosaboni. It is on the last of these that the Indian Copper Corporation has developed its Mosaboni Mine.

On Chandar the ancients were well clear of the water-line as the summit of the hill is about 700 ft. above the surrounding country and most of the ore occurs near the top. Old ventilation shafts are to be found on both the northern and centre lines, the latter being circular and about 3 ft. in diameter by 20 ft. deep to the debris in the bottom above the stope level, while the dumps from all three runs of workings are considerable. From the numbers of palaeoliths, bouchers and neolithic cores, flakes and beads occurring in the neighbourhood, this would appear to have been one of the earliest points of attack of the ancient miners, and the wreckage of trap implements in the dumps leaves no doubt about the extraction of copper having been started with their aid. As plenty of iron ore exists close at hand one can only assume that the use of this metal was not then general. Between Chandar Buru and Hartopa there are no prominent hills along the line of belt and old workings are confined to sundry ridges that rise out of the plain, but from the latter to Rajdoha they are fairly extensive on both sides of the Garrha River which cuts across the strike at right angles. From Rajdoha, where three inclined and one circular vertical shafts have been sunk and one adit driven in modern times, old workings are scarce until close to the Kapurgadi Pass where considerable runs occur on the hills on both sides. The easternly run of these is continued to Rakha Hill and was included in the area worked by the Rajdoha Mining Company towards the end of last century. On Rakha Hill old workings are numerous and can be followed until they run up on to the spurs that connect the northern side of Sideswar with the lower country. Here as at Nandup and Chandar three parallel runs are found: the most northerly follows the crest of the spur south-east of Roam; the centre, which is the most important, the flank of the next ridge to the south, while the third is below Sideswar itself. This last consists of an open stope running from the valley into the side of the hill and connected some way in by a steeply inclined circular shaft

¹ Gold, Copper and Lead in Chota Nagpur, W. King and T. A. Pope.

of about 4 ft. in diameter to the ground above. The top of the ore shoot being flat this was soon below the surface of the rising ground and the shaft must have been sunk for ventilation, though the steps cut in it permitted its use as an emergency exit. The northern line was explored by an adit started from the valley by the Cape Copper Company, which had taken over the assets of the Rajdoha Mining Company in 1912, but on holing into a very extensive ancient stope and meeting with runs of filling or fallen rock, both above and below the adit level, suspended this work. The height of this stope was probably little short of 150 ft. and of undetermined length, but the only things of interest produced were some small baked clay pots that had probably been used as lamps by the miners.

The only important source of gold hitherto discovered has been in the south-western portion of the pergannah close to the Mayurbhanj border. Here numerous trap grinding and crushing stones litter the jungle south of the village of Kundrukocha, with further small clusters over the hills in Mayurbhanj State. Isolated ones are to be found in most of the localities where blue or white quartz veins are available, proving that the ancients must have scoured the district in search of payable deposits. Numerous old workings have been found in various places around Kundrukocha and in 1913 the Dhalbhum Gold and Minerals Prospecting Company was floated in Calcutta to work this area. Its activities have already been described¹ so it is only necessary here to state that during the years 1916-1920 gold to the value of £25,000 was obtained, nearly all of which came from the Porojarna section. Most of the ancient workings follow pipe-like enrichments on folds, but in one case values of 2 ozs. over 30 ins. were obtained over a length of 80 ft. from quartz that did not outcrop and was thus missed by the old miners. The greatest depth so far known to have been reached by the ancients here is 97 ft. on a pipe coming down from the top of Porojarna Hill, and in the bottom of this were found a stone hand hammer and broken chisel.

Soapstone resulting from the metamorphism of trap is to be found in many places all over the pergannah, though by far the largest aggregate of workings exists on the hill to the west of Bhitari Dadi village, which rises to approximately 700 ft. above the plain. The rock varies in colour from light grey to bluish grey and is often traversed by streaks or stringers of magnesite, which spoil such parts for utensils without occurring in sufficient quantity to make their extraction an economic proposition. A large portion of the southern flank of the hill is covered by the spoil from the workings near the crest on that side, many of which are being exploited at the present day to meet the

¹ Gold in Chota Nagpur, E. F. O. Murray, *Min. Mag.*, Vol. XXVIII, No. 1, 1923.

demand for soapstone bowls and plates, and as this may be of interest, a description of the operations will be given.

The miner, having selected what he considers a suitable band of rock in one of the open-cast workings attacks this with an implement of local manufacture that is a cross between a pick and a hammer until he has cut a circular groove somewhat larger than the size of the article desired, that slopes from the inner side and is vertical on the outside. When he is satisfied that the groove is deep enough the next step is the removal of the piece from the rock, which is accomplished by the use of hammer and chisels. This is the most hazardous part of the process as owing to the uncertain fracture of the rock many pieces break otherwise than intended. Having overcome this stage he next gives the piece a rough dressing outside the working, after which it is put aside and mining continued. At the close of this the miner with the aid of his wife removes the roughly dressed blocks to the village where they are to be turned, to effect which a lathe of some sort is obviously necessary. In the ground are sunk two slats of wood with semicircular notches to take a wooden roller about $2\frac{1}{2}$ ft. long, to one end of which the plate is stuck by means of lac, two grooves on the roller running in the notches preventing lateral movement. The motive power is supplied by the wife who takes some turns round the roller with a piece of thin rope and holding an end in either hand imparts the necessary motion while the man with his cutter, a piece of iron or steel let into the end of a stick, removes the superfluous portions. The northern side of the hill is the one that was mainly worked by the ancients, though most of their dumps are now overgrown with grass and therefore inconspicuous. The old workings, which are here exceedingly numerous, generally commenced with the sinking of a roughly circular and steeply inclined shaft across the strata and, as good bands of the rock were intersected, stopes were opened out along them. The methods of detachment and treatment have not been determined, but probably did not differ much from modern times.

Remains of the ancient copper workers, as before stated, are exceedingly numerous, countless workings, dumps and slag heaps testifying to their industry. Below the largest of the old workings on the southern line between Talsa and Turamdih occurs the most extensive series of palaeoliths yet found by the writer, many hundreds of these being scattered over the ground at the foot of the hill and have the appearance of having been brought there for treatment. The rough fragments vary a good deal in size, untreated stones being mixed with broken ones and chips, but the general run desirable seems to have been 6 or 7 ins. by 3 to 4 ins. by 1 to 2 ins. thick and from these the implements were fashioned. The pieces are nearly all of a fine-grained trap and the actual source of supply

has not definitely been determined, though very similar rock occurs near Balidi about 3 miles to the south. Higher up in the dump from the workings further pieces and a few broken bouchers are to be found; some of a coarser grained material, but these are mostly small and in all probability mainly fragments of those that broke in mining. Above the workings are some flat rocks pitted all over to a depth of about 1 in. on which the ore must have received a crushing and picking before it was despatched to the smelters below, two crushing stones having been found close by. One of the pitted rocks has a hole about 5 ins. deep and 3 ins. diameter which may have been used for hulling paddy for the workers or for giving the concentrates a final crushing with a pestle for the furnace, but none has come to light in these parts. More recently, however, two broken stone pestles with circular polished handles that would fit a similar mortar have been found near Rakha Mines. Among the palaeoliths at the foot were two stone hammers and two pieces of roughly polished chisels, the former being made from waterworn pebbles of fine-grained trap that probably came from the Korkai River about 6 miles west of here and bear evident signs of chipping and hammering. Slag heaps and the remains of old clay furnaces lie all around and testify to a considerable output of copper at this point. Moving east the next places of importance on the south line are beneath some trees close to Turamdih village and the flat ground immediately west of the railway line, where most of the Turamdih ore must have been treated. Crushing stones consisting generally of flattish roughly circular pieces of trap, or occasionally quartz, with depressions to fit the fingers, are plentiful and some small slabs of pitted rock used as anvil stones lie around, while slag is abundant. Several ring stones have also been found in the neighbourhood. East of the railway line the first place of note is on some small hills close to the road on the northern line of ore where several traperushing stones of varying texture and a few anvil blocks are found. To the south of this the writer picked up a roughly smoothed axe-shaped piece of trap which from its chipped ends, one sharp and the other rounded, may have been used as a wedge. From here we come to Chandar Buru where the workings and remains have already been described. The flat rocks above the south line workings are pitted like those near Turamdih with a similar deep hole in one of them and the rejected material, showing malachite, lies around. Slag heaps and the remains of old furnaces abound all round the foot of the hill, while to the south-east is a place where hornstone and quartzite cores and flakes occur in profusion, not far from the banks of the stream which comes down from Dadi. Following the heaps of slag eastwards towards Goradi crushing and anvil stones occur with these, while not far from the banks of the stream on ground that has since been cultivated formerly

stood the remains of a battery of six old furnaces. The plan drawn from measurements taken before their destruction will

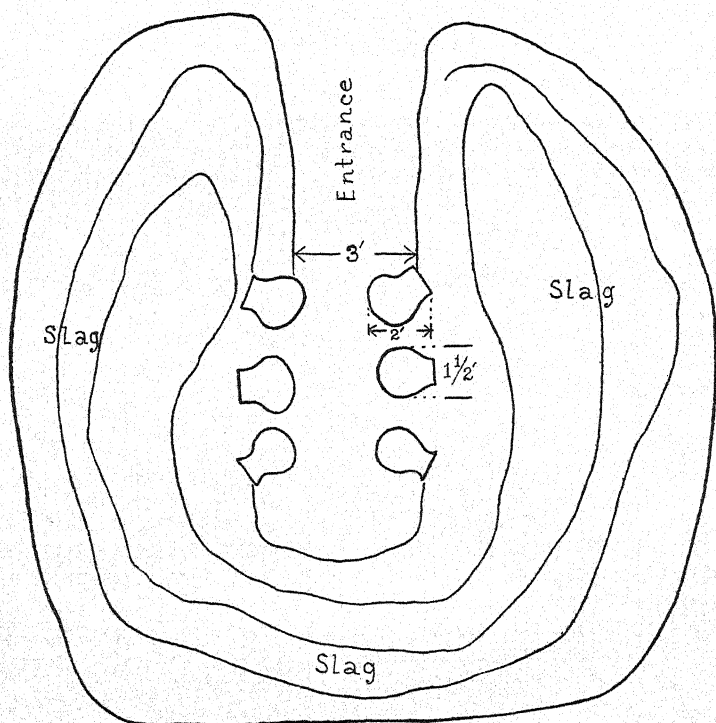


FIG. 1. Old Copper Furnaces, Chandar Buru.

show the layout, and a portion of one of the clay tuyeres remained on the ground. This was cylindrical, about 9 ins. long and 3 ins. in diameter with a pointed, slag-covered nozzle, the air passage tapering from about 1 in. to half an inch at the point. Only the hearths of the baked clay furnaces remained, 18 ins. wide by 2 ft. long, of the shape shown. Smelting must have been much the same as at the present day for iron, air being supplied from foot-worked leather bellows to clay furnaces about 3 ft. high. The bellows are rounded hollowed out blocks of wood open on the top over which a piece of hide is tied, while to the centre of the leather a cord is attached with the other end tied to a flexible stick planted in the ground, a hole being cut in the hide for the entry of air. A pair of these is placed side by side slightly sunk into the ground at a convenient distance for the operator's feet and air supplied by the bellows man marking time and closing the air vents with his feet on

the downward stroke while the spring of the stick raises the leather again as soon as the pressure has been released. A bamboo pipe taking off from each leads to a clay Y which joins the tuyere, one set being generally sufficient for each furnace though two are sometimes used. The blower's balance is often assisted by a sapling with one end sunk in the ground so that he can grasp the clear end with his hands.

The fire having been lit and charcoal blown up to a good heat the powdered ore is fed into the furnace with charcoal and in copper smelting either iron ore or kankar lime were used to flux the siliceous gangue. Considering the crude methods employed a remarkably clean slag resulted, but in two places where the ancients seem to have tried apatite-magnetite rock as a flux their metallurgy resulted in numerous small shots of copper remaining in the slag.

Immediately south of Goradi village is some stony undulating ground with spare vegetation, the knolls running towards the Dadi nallah. In a small hollow on one flank of the most easterly of these, just above a newly excavated tank, is a bed of solid laterite from 6 ins. to 2 ft. thick and about 60 ft. by 30 ft. in extent. A little way west of this bed three stones are stuck upright in the ground forming a rough line, the centre one protruding about 15 ins. and the other two 6 ins. each.

Both Hos and Mundas have from times immemorial been accustomed to mark their burial grounds in a similar manner by groups of monoliths, but these are as a rule anything from

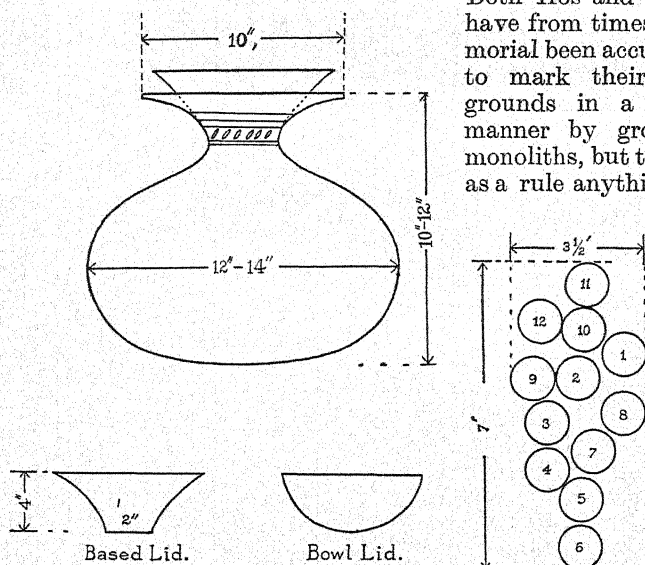


FIG. 2. Burial Urns, Goradi.

3 to 10 ft. high and large flat slabs of stone cover the earthenware pots that contain the remains of the bones of the dead.

These slabs may weigh anything from 1 to 15 cwt., though heavier are known, the size generally depending on the amount of influence the deceased possessed. At the present day, however, many of the Mundas have deserted this method for ordinary burial, the corpse being covered by earth over which any large stones lying around are laid, while the 'parkom', or string bed with wooden frame, belonging to the deceased is placed upside down on the top.

An open hole in the ground near the three standing stones being unusual, an investigation was undertaken when this was found to be a cemetery presumably of the ancient miners. Though stone slabs are easily procurable in the vicinity none covered the urns and digging proved that these people had been in the habit of stopping the mouths of at least some of the pots with a small clay bowl. Altogether twelve clay urns were

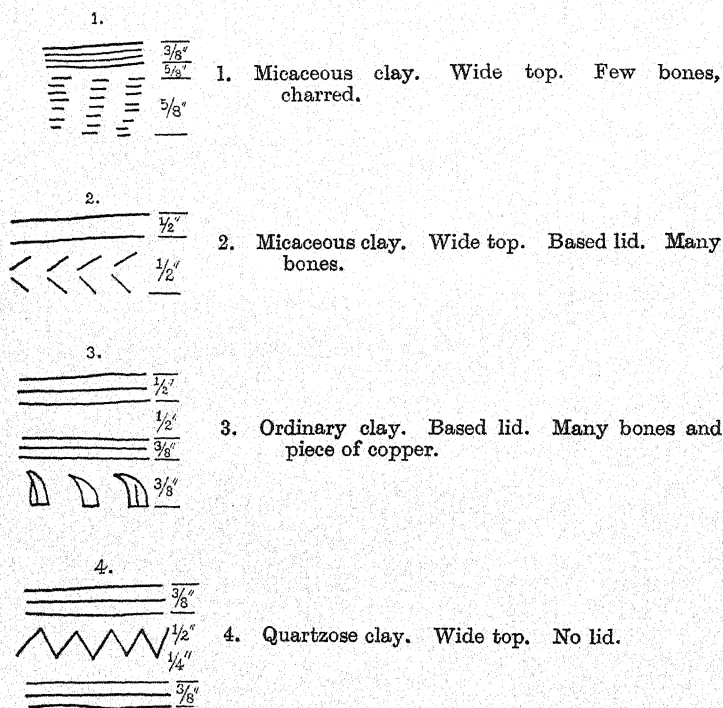


FIG. 3(a). Urn Neck Patterns (1-4).

extracted on the south side of the stones, from a plot about 7 ft. by $3\frac{1}{2}$ ft., in the hope of finding some relics that would give a clue to the times to which they belonged; but probably more exist here as well as on the opposite side of the stones.

The majority of the urns were made from a micaceous clay that seems to have been peculiar to the ancients and is no longer used, while the shapes and markings are more elaborate than at present. The pots varied in shape and size, being from 10 to

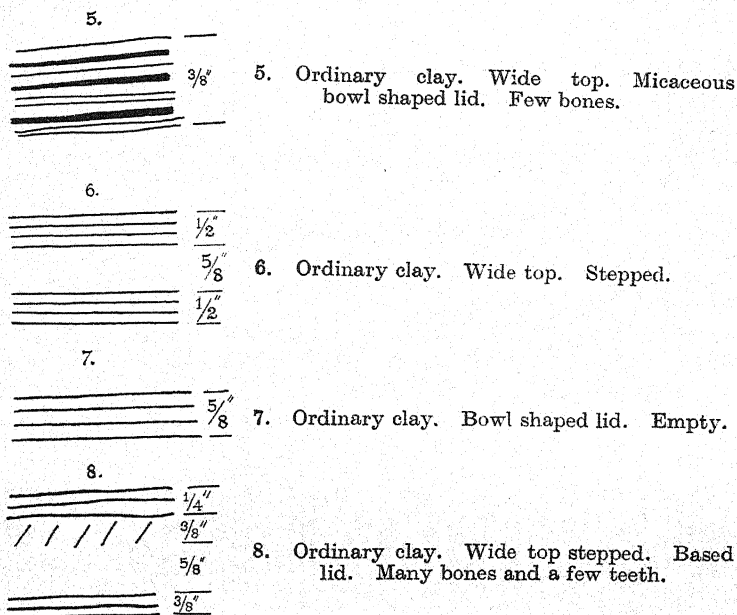


FIG. 3(b). Urn Neck Patterns (5-8).

12 ins. high and 12 to 14 ins. wide at their maximum, while the neck of each, which varied from 4 to 6 ins. in width, bore distinctive marks. Beyond broken bones, some of which seemed to be very slightly charred, some teeth and small pieces of copper oxidized to malachite, that may have been part of a chain, nothing was found. Owing to their broken state none of the urns could be preserved intact, but nearly all possessed widely turned back tops, while the small clay pots that filled the necks were of two kinds, one shaped like an ordinary bowl and the other with concave sides and a small flat base, the average size being about 8 ins. in diameter by 4 to 5 ins. deep.

A little way above the cemetery crushing stones of the usual type were fairly plentiful, while among them lay three neolithic celts and one flat stone about 15 ins. long by 7 ins. wide that had a groove caused by grinding. A portion had split off this stone at one end and both pieces had laterite attached to them along the sides of the crack. The nearest portion of the laterite bed is about 30 ft. away and there are

no means of ascertaining whether this has been formed since the ancients worked here or how far up the knoll it originally extended. Broken pieces of pottery lie about and in various places small heaps of slag, many pieces of which are cylindrical with

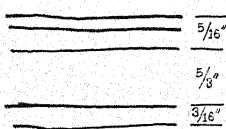
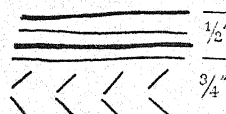
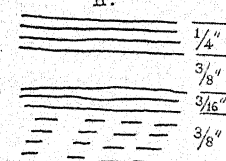
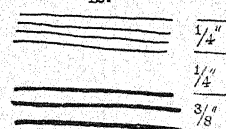
- 9.
- 
9. Ordinary clay. Large teeth. No bones
- 10.
- 
10. Micaceous clay. Ordinary clay. Bowl shaped lid. Some bones.
- 11.
- 
11. Thick micaceous clay. Wide double lined top. Few bones and one bit of a tooth.
- 12.
- 
- 12 Thin dark clay. Narrow single lined top with ledge. Few bones and teeth.

FIG. 3(c). Urn Neck Patterns (9-12).

vesicular surfaces and vary in size from about one inch to a quarter inch in diameter. Along with these are other pieces with semi-circular indentations which fit the cylinders, but the object and method of manufacture have still to be ascertained as well as the reason why such slag should be confined to this locality.

On the way from Kudada to Dadi, close to where the road crosses the railway line, occur two main lots and some scattered slag entirely different from the usual iron or copper slags of these parts. It varies considerably in colour, the greater portion being a light brown shading to the usual black, is porous and full of large cavities which look as though some crystalline

material formerly existing had since been leached out. In the darker material malachite stains are sometimes visible as well as long acicular crystals, which under the microscope are shown to be mullite. Both blue and white quartz veins occur in slate in this locality, while a tufa limestone deposit is found about half a mile to the west and small fragments of pottery with crushing and anvil stones are plentiful. For a long time the origin of this slag could not be determined until one day some years ago the writer was informed that beads had been made here in the distant past by a small old man who lived on Dhoba, the mountain above the village of Bonidi. Further enquiry elicited the information that they were sometimes found during the wet weather washed out of the ground and as the rains were then on, an immediate search was undertaken. The recently ploughed ground above the village soon produced some red and yellow beads, the former of which under the microscope proved to be made of a devitrified glass and the latter of terracotta, so the village children were put on to collect as many as they could. The result was that a supply started coming in and with the glass variety quite a number of polished stone ones. The majority of the composition beads are cylindrical and a brick red colour, varying in size from 13 mm. long by 6 mm. in diameter down to sections 5 mm. in diameter by 2 mm. thick, while some of the larger cylindrical pieces have been pressed flat before hardening and pinched near both ends, or cast to this shape. Nearly all the yellow beads hitherto found consist of sections which vary in size from 6 mm. in diameter by 2 mm. thick to 2 mm. in diameter by 0.75 mm. thick. Quite a number of blue and green beads also appeared, but these are generally roughly rounded and considerably more glassy than the others. The colouring matter of the blue and green beads is, as one would expect, copper, while an assay of the red devitrified glass ones gave results of 1.72% Cu and 1.68% Fe and the yellow ones also contained copper.

The stone beads are commonly made from carnelian, agate, onyx, or crystal either roughly rounded or flattened after the composition pattern, or faceted with eight or twelve faces, the last idea having doubtless been derived from quartz crystals. The largest bead is 23 mm. long by 16 mm. in diameter at the widest portion, diminishing to 6 mm. at the ends; while the rounded agate and jasper ones vary from 16 mm. in diameter. One quartz bead about 15 mm. long was shaped like a fang with a horizontal hole drilled through the thick end, while another one was a flattened hexagonal prism made of black hornstone and a third a cylinder of green epidote hornstone, both these rocks being establishable in the locality.

For threading, holes have been drilled from both ends and the alignment is frequently so faulty that these have scarcely met, the sizes varying from 1.5 mm. downwards. The means

and method of drilling have still to be ascertained, but supplies of kyanite-topaz-corundum rock are obtainable about 3 miles away, where a few stone implements have also been found. Lying among the relics of the beadmakers were two broken ringstones, one of a grit that occurs on the northern slope of the hills and the other of an iron-stained siliceous slate from the top of Dhoba Buru. Articles of baked clay were also found, the first a ball about 36 mm. diameter with a 6 mm. hole through the centre that served some undetermined purpose and a reel that probably once held the line on which the beads were threaded. Other items of interest were one white glass bead partially overlaid with beaten gold that had been stuck to the glass by lac, a piece of beaten gold lying in the soil and a portion of what looked like thick copper wire 40 mm. in length by 4 mm. in diameter. On cleaning up one end this was found to have a centre of red copper, an intermediate ring of black copper and an exterior of polished malachite. From the curve on it this may have been a portion of a bangle, or by cutting off slices and drilling out the red copper core it would have formed beads almost identical in shape to the smaller terracotta and stone sections. The only remaining article of interest was a pointed iron punch 75 mm. long and 20 mm. square, but of doubtful age.

The beads having been found scattered over the area it is impossible to say how they were strung in ancient times, but the greater portion of a necklace of col-de-chien length has been found with a burial urn and remains of bones near the village of Banabassa on the south side of Chandar Buru. This consisted of seven oblong and eleven rounded stone beads, nine flattened double-necked composition ones, one green one of same shape and one red cylindrical one 3 mm. wide by 5 mm. in diameter.

Stone beads of many types are recorded to have been found by Bruce Foote in Southern India, ascribed to Neolithic times, and on a comparison with those in the Madras Museum the writer has been able to find several similar to the Bonidi beads. Many neolithic beads seem to have forms common to both Europe and Asia, but the most striking discovery comes from a find from Montapalam in Pondicherry where the uncommon flattened barrel with lined ends shape occurs. A French authority¹ ascribes this type to Phoenician influence though the writer has hitherto only been able to find this form in beads from Mohenjo Daro and Ur and not among Phoenician beads in any museum visited.

Some years ago some rounded carnelian beads and a barrel-shaped onyx one were dug up at Kundrukocha not far from where the old gold workers' grinding stones are, and some of the

¹ Numa Laffitte—Rapport D'ensemble sur les Fonilles Exécutées dans le sud De L'Inde, Paris, 1932.

older men of the surrounding villages still have a few that have been picked up from time to time. More recently a trap ring-stone and various other stone implements have also been found in this locality, of types similar to those occurring on the copper belt and pointing to both the copper and gold workings having been made by the same people.

Following the copper belt eastwards, little of interest beyond old workings, occasional palaeoliths and cores and flakes, is to be found between Goradi and Rajdoha, or between this and Rakha Mines; but just beyond this last place on a spur that runs north from Sideswar we come to the ruins of Roamgarh, situated on the most elevated portion. This spur, which has a flat top, is exceedingly steep on all sides except where it is

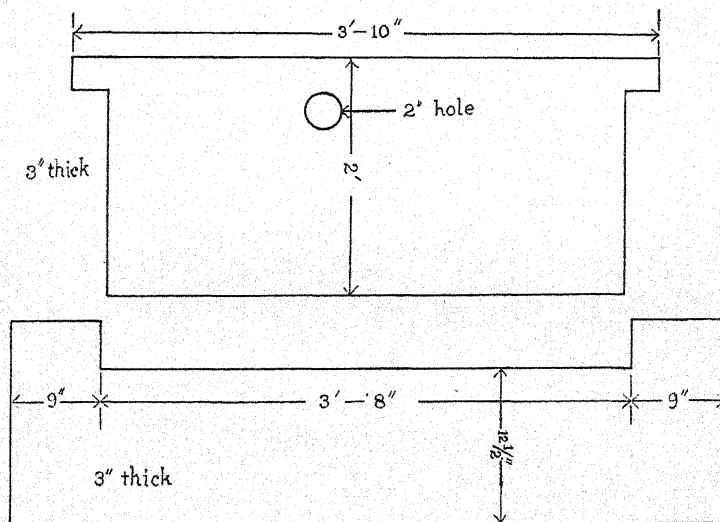


FIG. 4. Stone Door (?), Roamgarh.

joined to Sideswar by a thin ewe neck, while covering the top and extending along the neck to where it commences to dip is the remnant of a thick bed of laterite which presents a vertical face of about 15 ft. to the slope on the west and what look like two or three 6-8 ft. terraces roughly cut out of the laterite to the north and east. The laterite bed extending along the neck has the appearance of a causeway, but comes to an abrupt end in a face about 15 ft. high, at which point the width has narrowed down to about 8 ft. The strength of the position from a defensive point of view, except where a supply of water is concerned, is very evident and the view commanded therefrom embraces all the flat country to the east, north and west

and the spurs around Sideswar to the south. On the highest part are the ruins of a circular brick-built watch-tower of which only some 5 ft. now remain, the rest of the brick walls lying scattered around and down the south-eastern slope of the hill. The bricks seem to be of two sizes lightly burned and mixed with rice straw, the smaller $10\frac{1}{2} \times 6 \times 3$ ins. and the larger about $20 \times 10\frac{1}{2} \times 3$ ins., but the length of the latter is uncertain as so far only broken fragments of these up to 15 ins. in length have been recovered. The circular tower, which is now filled with debris in the centre, is set on a brick plinth built on the laterite and covered by spear grass for the greater part of the year. The place is now the haunt of hyenas which have small passages through the laterite leading towards the tower and from the weathered material lying on the floor of these they probably at one time afforded access to chambers cut out of the laterite bed. Some years ago an attempt was made to clean the debris out of the watch-tower until a small hole put through was tested with a long drill and as this failed to find any bottom and liberated swarms of fleas, work was stopped. In 1926, the place was re-visited after a couple of years' absence, when two human skulls¹ were found lying on the flat ground near the northern entrance that had not been there previously. As the writer had been asked to collect skulls by W. P. Pycraft, these were submitted to him for measurement with the following results:

		Cephalic Index	Nasal Index	Alveolar Index
No. 1..	..	73.4	48.0	101
No. 2..	..	72.3	57.4	102

Near the foot of the plinth on the south side was a flat piece of schistose quartzite sticking out of the ground, 5 ft. 2 ins. long, 14 ins. wide and 3 ins. thick with the central portion of one side cut away to a depth of $1\frac{1}{2}$ ins., while close to it a piece of similar stone 2 ft. wide lay nearly covered by earth and broken bricks. On extraction it was found that the shorter side of this fitted the recessed portion of the other stone while the opposite side had a 1 in. pivot at either end and a circular hole 2 ins. in diameter about midway near the edge. Higher up on the flat ground below Sideswar is a slab of similar rock 10 ft. long by 2 ft. wide by 3 ins. thick, presumably intended for Roamgarh, but abandoned on the way and close to it, the writer picked up a broken stone pestle and various crushing stones though here they are far from plentiful, as further west. Recently on cleaning out one of the ancient copper workings near Roamgarh thousands of pieces of pottery were uncovered

¹ These two skulls have been re-examined by Dr. B. S. Guha in 1935 through the courtesy of the Keeper of the Natural History Museum, South Kensington, London, and a short note will be published in near future.—*Editor*.

in the refuse surrounding the shaft. The higher layers contained only red clay pottery similar to that used in modern times, but

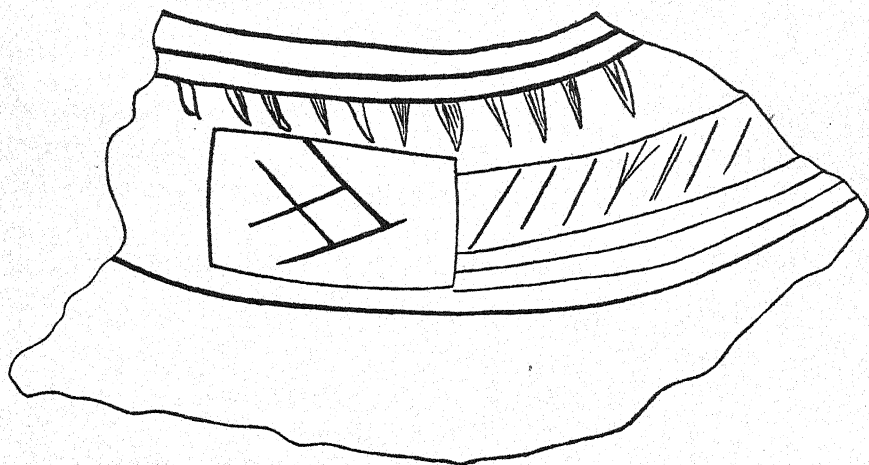


FIG. 5. Pottery, Roamgarh.

as the cut got deeper, this gave place to yellow and often to dark and nearly black pieces of superior manufacture and finally to the elaborately ornamented fragment illustrated. In the same locality was found the broken portion with moustache and eyes, the nose forming a spout used perhaps for pouring

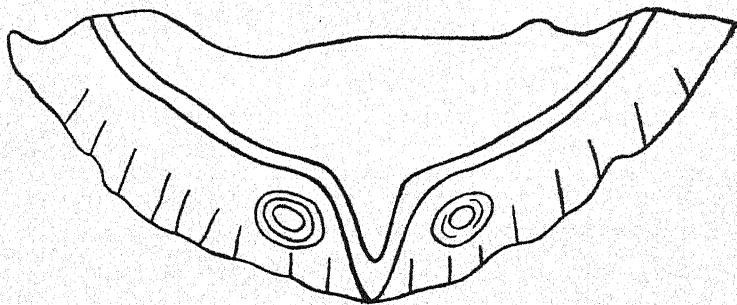


FIG. 6. Pottery, Roamgarh.

oil into the miners' lamps previously discovered in the vicinity. The eyes were black and shiny like slag and firmly fixed in the baked clay. The superior workmanship of the earlier workers was thus again clearly established.

Shrines.

South of Asanboni, near the bank of the Garrha Nallah, and north of Badia beyond Mosaboni in the central portion of the pergannah, are the remains of two similar shrines. When the writer first knew them many years ago both were deserted, but on subsequent visits to them the former was found to be occupied by a Hindu priest who had collected and replaced some of the scattered fragments. The walls, which had been roughly rebuilt to a height of 2-3 ft., were made of laterite blocks tongued and grooved in many cases to fit one another in one of two ways. The former was to leave a triangular tongue with one inclined and three vertical faces midway near one end that fitted a corresponding groove in another block while the other was to double mortise the centre of a block and have a tenoned piece to accord. Another piece of laterite in the shape

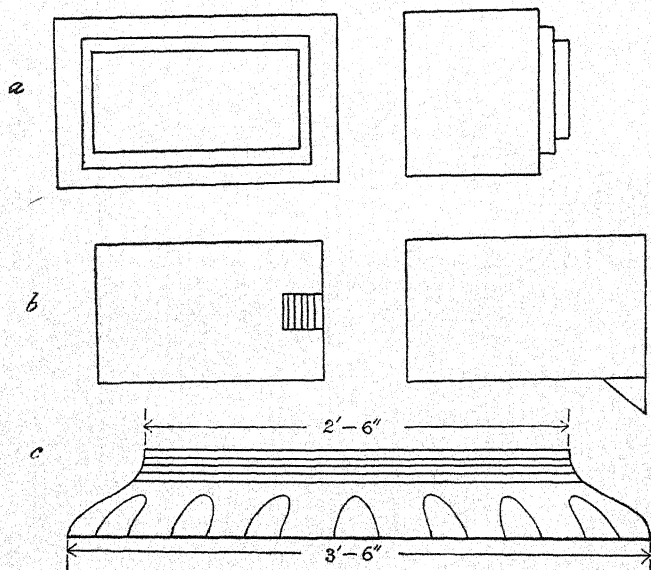


FIG. 7. Wayside Shrines. *a* and *b* Laterite building blocks.
c Pedestal.

of a circular pedestal bore rough carving being stepped near the top and bottom and curved in between. Among the relics dug up by the priest was a slab of hornblende schist about $3\frac{1}{2}$ ft. long, 1 ft. wide and 3 ins. thick that bore figures in twelve panels and ornamentation on either side of them. At the head was a wheel followed in the second panel by a kneeling human figure, a deer, an animal like a rhinoceros, a sitting

human figure, then a standing one, an elephant, a squatting human figure followed by one bending, two human figures, a female figure bending, and a female bust; after which the ornamentation ended in a large standing male figure whose legs and arms were in positions similar to Egyptian carvings, which occupied most of the end of the stone. Unfortunately during subsequent building operations this stone has disappeared. In addition to this were two phalli of similar rock

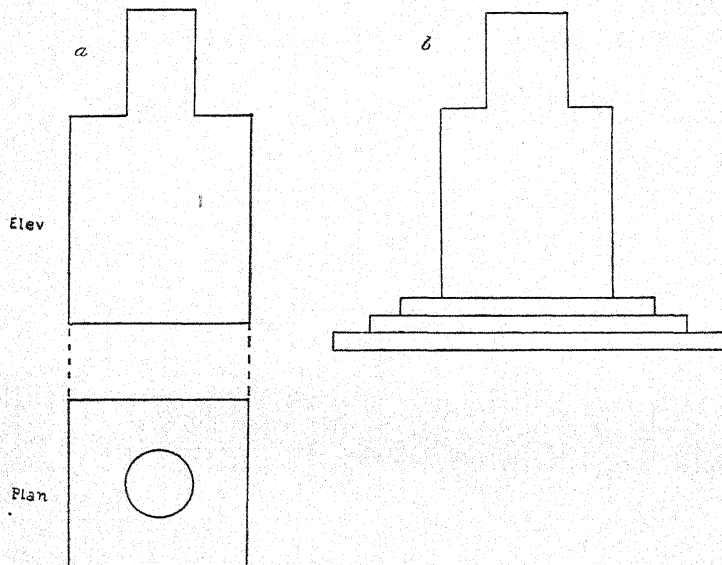


FIG. 8. Wayside Shrines, Asanboni.

and a square soapstone yogi with three projecting bands round the top, centre and bottom and a panel in the centre of two sides which bore a sitting figure, while the top, which was

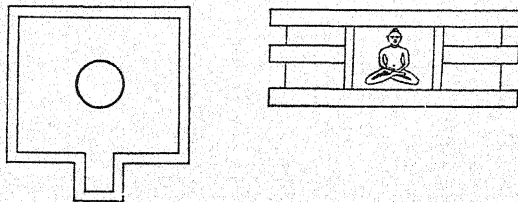


FIG. 9. Yogi.

recessed, had a spout and a circular boss in the centre level with the sides.

This shrine is in such disorder that it is necessary to refer to the one at Badia for a realization of how it formerly must have been. About a mile west of the village of Gohala and not far from the south bank of the Subarnarekha is a cluster of trees some of which seem to be growing from an elevation higher than the alluvial plateau that surrounds them and in the midst of them are the remains of a shrine with walls still standing to a height of 9-10 ft. The outside measurements are roughly 15 ft. wide by 16 ft. long, with the major axis and entrance facing east, and the walls 4 ft. thick made of rectangular laterite blocks of varying sizes; leaving an open space inside 7 ft. 9 ins. long by 7 ft. wide which was once paved with flat soapstone slabs, one of which bore carving in the centre that resembled a four-petalled flower. Two of the inside blocks of laterite, one on the south side of the $2\frac{1}{2}$ ft. wide entrance and the other near the western end of the south wall have niches cut in them with lean to tops and straight sides and bottoms, which measure about 5 ins. by 5 ins. at the points of greatest dimension and are sunk 3 ins. into the stone. Outside close at hand is a circular pedestal of laterite about 3 ft. in diameter and 8 ins. thick stepped and carved in a similar manner to the one at Asanboni. Further away again and beside the path to Gohala is a rectangular carved soapstone pillar, with rounded

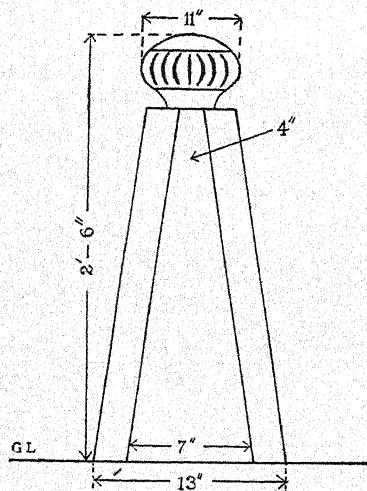


FIG. 10. Gohala Shrine—Soapstone Pillar.

head and neck, which projects about $2\frac{1}{2}$ ft. above the ground. The rounded head is ornamented by a ring near the top and vertical rolls while the rectangular portion which has 11 ins. sides at the top, increasing to 13 ins. at the bottom, has smoothed bands along each side $3\frac{1}{2}$ ins. wide at the top and diminishing to 3 ins. towards the base so as to leave a roughly dressed panel in the centre. Beyond Kuyali on the road to Kundrukocha are the remains of a similar shrine, where the aboriginals now offer sacrifices. The usual laterite pedestal and blocks of the same stone lie about or are enclosed in a mud hut covered

by a roof of thatch. Remains of a fourth shrine also occur near the south bank of the Subarnarekha River in Mayurbhanj State near Baragora where a phallus has a metal 'nāg' coiled

around it. The usual laterite blocks and four pedestals, differing in size, lie around. Gravely mentions the existence of several similar shrines in Ganjam and the northern Telegu country.¹

The ancient gold workers have left many traces of their industry in the southern part of the pergannah, and on the way from Kasibera to Kundrukocha is a large flat grinding stone with a few other slabs of rock which cover clay pots containing broken bones and must have been brought there by a succeeding generation that marked this burial ground by three upright monoliths. The largest collection of grindstones is found in the jungle along the western side of the nallah that comes down from Porojarna and Kerriam where several hundred stones must have been in use; while the next largest of about 100 stones is east of the two Putra shafts, being separated from them by a ridge and nallah which descend from the hills forming the Mayurbhanj boundary. Another lot of about 50 occurs further east where the Rangra spur joins the boundary range and nearly all of the three lots of stones seem to have originated from a band of fine-grained trap that runs up the nallah past the back of Porojarna Hill until it is lost near Putra South shaft in the main range. Why the ancients should have gone to the trouble of carrying heavy stones for about a quarter of a mile over rough country and away from water to the Rangra spur is not evident unless old workings still remain to be discovered in this vicinity. The only other large accumulation of stones occurs to the east of Mangru; and though rock and water are handy here this seems to have even less cause for its existence as no old workings have been found within a mile of the collection. In the circumstances the writer has come to the conclusion that the gold workers, coming from the north, fixed this, being in an open position and comparatively healthy, as their base from which to test the surrounding country, which in those days must have been covered by dense jungle and have had more than sufficient tigers, leopards and bears to add interest to a miner's life. As malaria is also unusually prevalent in these parts in the hills and elephants are not uncommon, the lot of the early workers cannot have been all that could be desired. The grinding stones are almost always made of trap, though occasional ones of quartzite or hornstone are met with, from 2-3 ft. long, 12-16 ins. wide and 4-9 ins. thick. A few that have been wide enough to take two grooves with a dividing ridge on each side are known, as well as one nearly rectangular stone about 3 ft. long by 1 ft. wide and deep that had a groove along each of the four sides and took four coolies to carry, but the regular weight is from 30-60 lbs. Generally both sides were used and grooves worn lengthwise by the forward and

¹ An Outline of Indian Temple Architecture, F. H. Gravely.

backward movement of a stone muller held in one hand on material that had received a preliminary crushing, sometimes from the back of the muller stone or more often from a stone specially for this purpose. As no anvil stones are found, the same block must have been used for both purposes, the process being continued until the stone cracked with the hammering or a hole was worn through the centre of the grooves. Near the upper end of the largest lot of stones, below Porojarna where the trap widens, a large block on the outcrop has been used for grinding *in situ*, but this is unique in this locality.

The main old workings are found at Porojarna, Kerriam, Rangra and Suraigora while others exist on Jhik, Chailom, Gande and Bin Dungri (dungri = hill), and metal tools would seem to have been mainly used for mining as only three or four doubtful hornstone chisels and one doubtful trap hammerstone have been found, apart from those in the bottom of the Porojarna workings. Had copper been used, some of these implements would probably have survived the passage of time, whereas iron must have been lost by oxidation, so the main work here must have been done during the iron age and probably later than the commencement of that on the copper belt. The finding of stone beads and a ringstone similar to those at Bonidi show that this art was known to the early workers, but if copper slag formed the base of the glass beads, as seems probable and the stone ones were made in the locality, it is not surprising that they are not to be found here as the nearest copper slag is about 20 miles distant.

A place, that might lead to further relics, occurs near Sapgora, over the border in Mayurbhanj, where an ancient shaft has a circular stairway leading down to stopes. The bottom of the shaft was filled with debris and countless pieces of earthenware pots, presumably broken while dealing with the water in the stopes. Unfortunately only some of the debris had been cleared in 1917 before orders were received to stop all work and nothing further has been done, though desirable from both mining and archaeological interests.

Summarizing the evidence at present available regarding the ancient workers we have the following:

1. Coins of the third to fifth centuries A.D. near Roamgarh;
2. Tradition and history;
3. Roamgarh and remains of shrines;
4. Burial urns and other pottery;
5. Beads;
6. Palaeolithic and Neolithic tools.

The only definite date that can be fixed from the above at present is that of the Kushan type coins, found in a clay burial

urn with fragments of bones at Rakha Mines, so that the workings must date at least from this period. From the projections left on the sides of the coins these were probably unused and must have been cast in rows in a mould. Similar coins have been discovered south of Chaibassa and in various parts of the districts of Ganjam, Puri and Balasore as well as in the State of Mayurbhanj. If we examine Indian history at the times indicated by the coins, we find that the Kushan empire started to break up with the death of Vasudeva around 220 A.D. and any influence that they had over Eastern India had disappeared by the middle of the third century. Chandragupta, the founder of the succeeding Gupta empire in the fourth century, married a princess of the Lichchavi clan who had Thibetan connections so that either he, or his son Samudragupta, could easily have obtained technical assistance from the Chinese had they required it in the working of the copper mines. In any case, there was considerable trade between India and China over centuries through the port of Tamluk.

Coming next to the legend of the Jains this is as indefinite as the Chinese connection, the religion dating from the sixth century B.C. and continuing down to the tenth century A.D., or 300 years after the time of Harsha, who was visited by Hiuen Tsiang and sent and received missions to and from China. Again, Chota Nagpur formed part of the empire of Asoka, who as a true Buddhist honoured all sects, so that there is no reason why the lay Jains should not have worked the mines during his reign and added to the riches of his empire. On examining the records left by Megasthenes of his sojourn at the court of Chandragupta Maurya, the grandfather of Asoka, more light is thrown on the state of India in those times. The capital of Magadha, the ancient city of Pataliputra, was about 9 miles in length by $1\frac{1}{2}$ miles in breadth, defended by a moat fed by the river Son and timber pallisade that had 570 towers and 64 gates; gold, silver, copper, pearls and precious stones were abundant, some of the gold basins being as much as 6 ft. in diameter while many vessels, definitely stated to have been made of Indian copper, were set with precious stones. During his reign woodcutters, carpenters, blacksmiths and miners were subject to special supervision, while punishment for Brahmans who offended included, being sent to the mines for life. As men, it seems, could not be wholly relied upon, the king had an Amazonian bodyguard obtained by purchase from foreign countries. Jain tradition affirms that he was of their faith and that following a twelve years' famine he abdicated, becoming a Yogi or ascetic. The nearest copper mines of any size to the capital are those of Baragunda in the Hazaribagh district and Singbhum, so that it seems probable that they furnished at least some of the copper of the vessels used at the court.

Some of the Śaiśunāga dynasty, which preceded that of the Mauryas, are also considered to have been Jain and both the Mahāvamsa and Hiuen Tsiang refer to the last of this line as being the possessor of great wealth and being so hated that he was finally deposed. Stoehr and Durrschmidt have left records of a tank below Roamgarh being attributed to the Jains and the fort of Roamgarh having been built by a Raja who spoke two tongues (do jib). Dalton, however, considers this to mean that he belonged to a serpent (Nāg or Nāga) race, meaning the Kols and it may not merely be a coincidence that the Nandas were of Śūdra origin, having usurped the throne from the former higher caste rulers.

The only other earlier historical reference throws no light on the copper workings, but records that under Darius the Asiatic satrapy used to pay as annual tribute of 360 Euboic talents of gold dust to the Persian empire, or the equivalent of about a million sterling on a normal pre-inflation basis. If burial urns similar to those occurring in Singhbhum could be found in other parts of India and some definite date be assigned to them, a further link in the chain could be forged, but at present this link remains incomplete, as the urns discovered by Laffitte¹ near Pondicherry bear no similarity either in size or markings to those of Dhalbhum. A question that remains unanswered is—why should each urn in the Goradi burial ground have a distinctive neck marking; was a record thus kept of those whose bones each contained and, if so, with what purpose?

A comparison of the beads from Bonidi with those from other places shows that many of the types are almost identical with those recently unearthed at Ur and those from Khorsabad that were in the Louvre. The most striking instances of similarity to Ur are the flattened barrel-shaped stone beads with lined ends, and the terracotta sections, the second shape being also found in Egyptian beads and the first at Mohenjo Daro. The table on p. 103 gives some of the beads found at Bonidi and compared with those in the British Museum, the Louvre and a few from Mohenjo Daro with the dates assigned to those from Ur. Unfortunately few of the beads from Mohenjo Daro have been accessible to the writer in Calcutta or that column would doubtless have more entries, while the Āzamgarh beads are confined to the exhibit in the British Museum. If any connection can be placed on the Ur dates for similar beads at Bonidi, the working of copper in this locality would be carried a large step backward and the connection of stone implements with the manufacture of the beads and the working of the copper would confirm their antiquity.

¹ *Loc. cit.*


	Bon.	Khor.	Phoen.	Sumer.	Ur	M.D.	Azan.	Ur. date B.C.
Blunt end double hexagon ..	S	S	..	S	S	..	..	..
Blunt end round ..	S & DG	S	..	..	S	..	TC	2000
Round ..	S	S	S	..	..	..	S	..
Round with central ridge ..	S	S	S	S	S	..	..	1400
Flattened barrel plain ends ..	S	S	S	S	..	..	S	..
Do. lined ..	S & DG	..	..	..	S	S	..	2000
Cylindrical ..	S & DG	S	..	..	S	..	S	2000
Sections ..	S & TC	S	..	S	TC	..	..	600
Barrel-shaped ..	S	..	S	S	..	..	S	..
Rough, round or flattened ..	S	..	..	..	S	..	..	1900
Fang shape ..	S	..	S	..	..	..	S	..

S = Stone, DG = Devitrified glass, TC = Terracotta.

The dates assigned to the Sumerian beads in the Louvre are from 3000 to 2500 B.C. As glass beads seem to be mainly confined to Bonidi no comparison of these has been possible and bead types unique to Bonidi have been omitted.

It may be argued that the civilization of the present inhabitants of the district is so little removed from that of the stone age that relics of this betoken no great antiquity, but against this may be set the facts that we have one fairly definite date, that all accounts of the working have been lost and that they are to-day quite incapable of doing what has been done in the past. A comparison of the present-day crude open-cast soapstone plate workings with the ordered circular shafts and stopes of the ancients show how much the earlier civilization was in advance of the present, while the smelting of copper and manufacture of beads are not likely to have been entirely lost had they originated, or been common practice, among the tribes of the district in comparatively recent times. The ancient civilizations that existed at Ur, Harappa and Mohenjo Daro seem to have many features in common that can only have originated through intercourse and time may prove that these influences extended further eastwards than has been thought.

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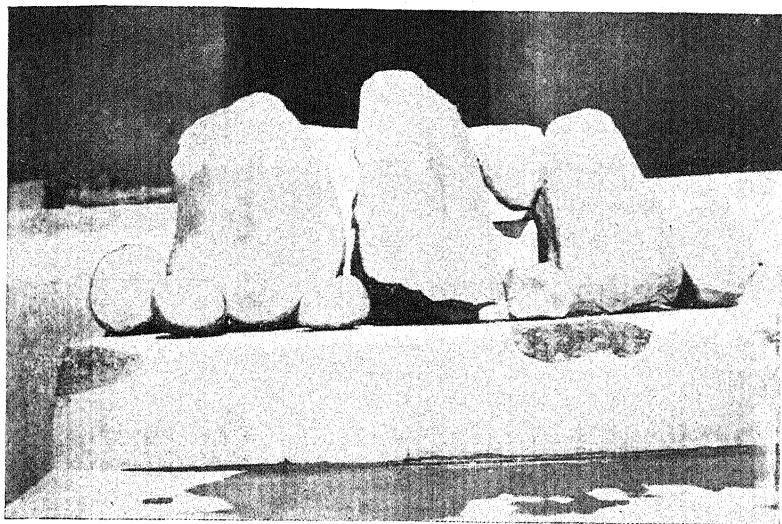


FIG. 1. Gold Crushing Stones, Kundrukocha.

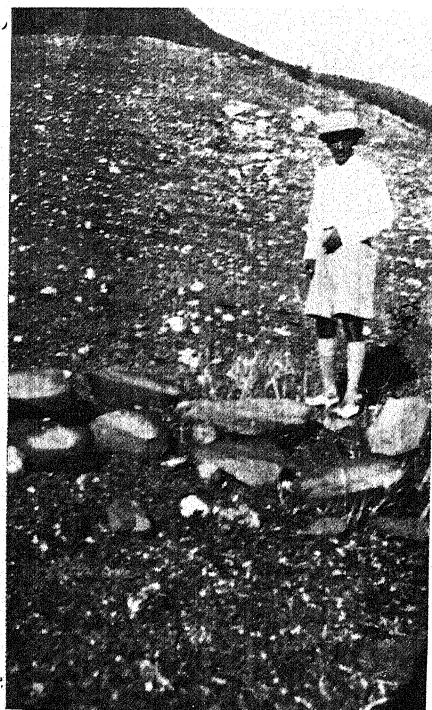


FIG. 2. Gold Crushing Stones, Bhitari Dadi.

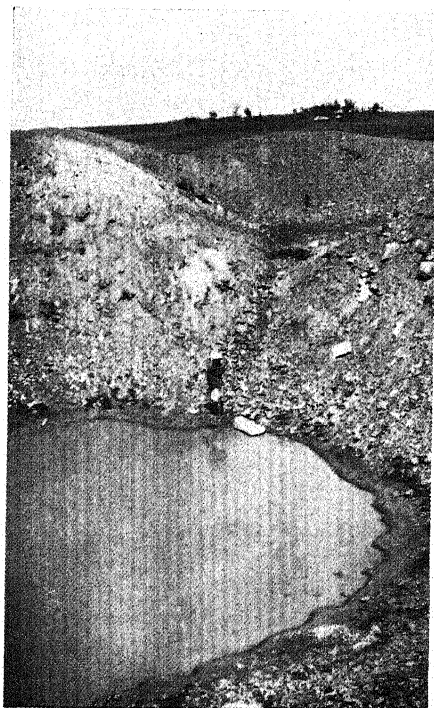


FIG. 3. Ancient Copper Working, Baragora.



FIG. 1. Ancient Soapstone Workings, Bhitar Dadi (North).



FIG. 2. Soapstone Outcrop, Bhitar Dadi (South).



FIG. 3. Remains of Stone Mining Tools, Talsa.



FIG. 4. Cores and Flakes of Quartz and Hornstone, Banabassa.

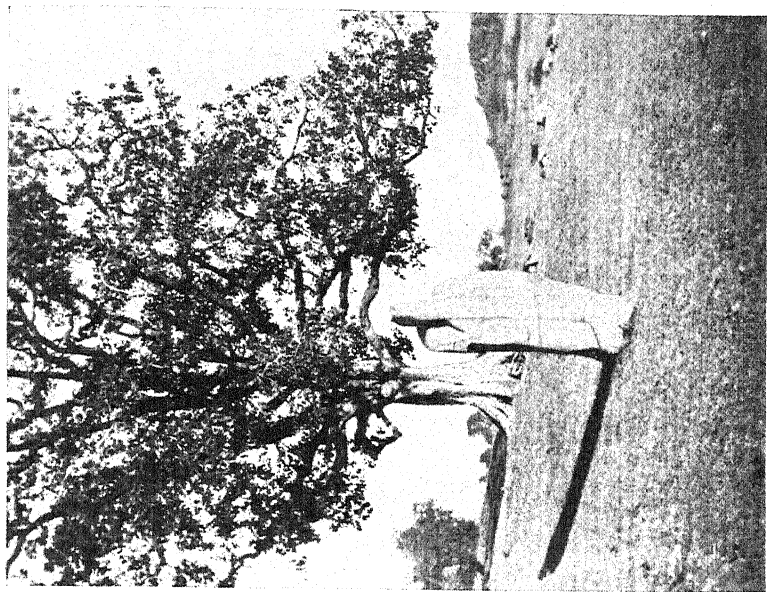
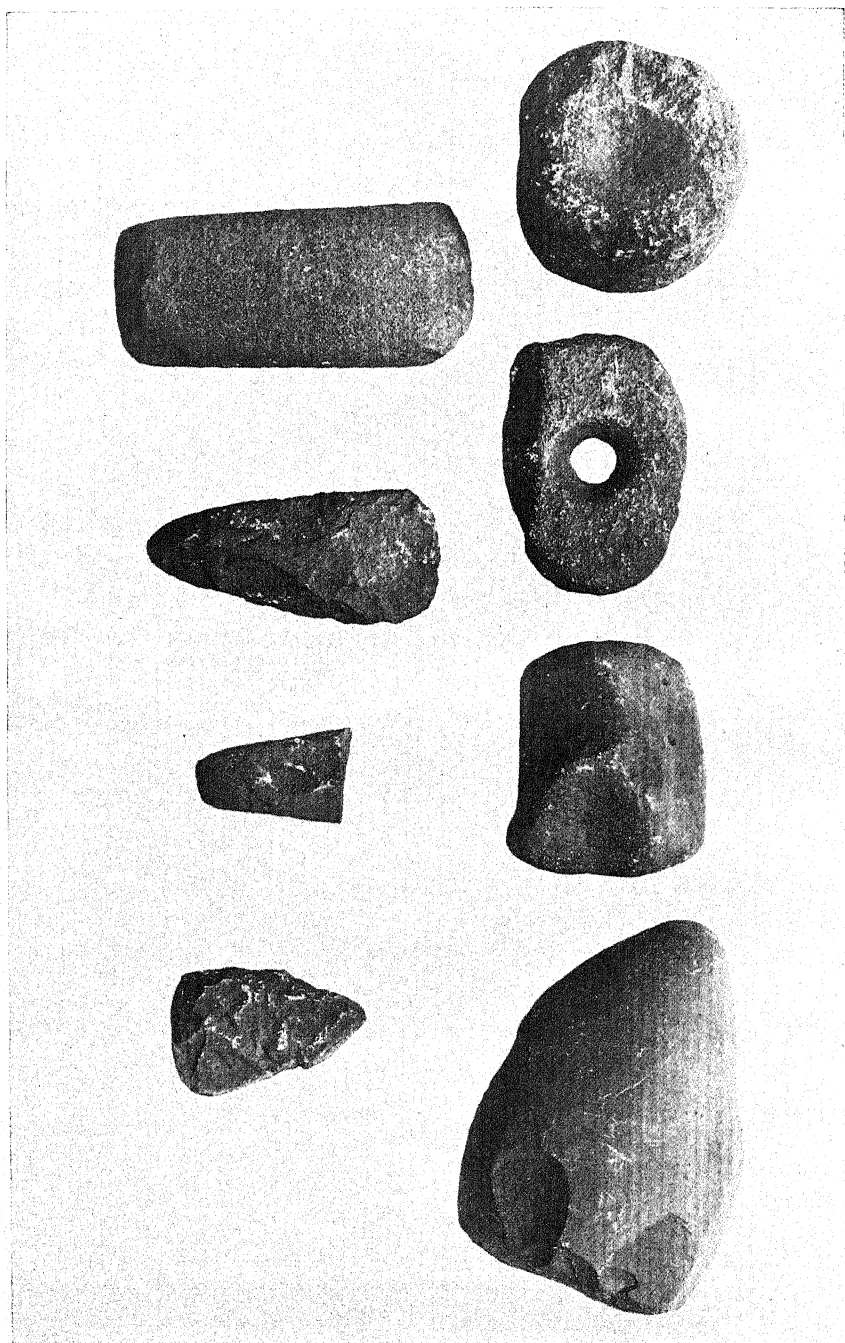


FIG. 2. 'The Widow', near Kalikapur.



FIG. 1. Shrine and Pillar near Gohala.



Stone Implements from India, Talsa.

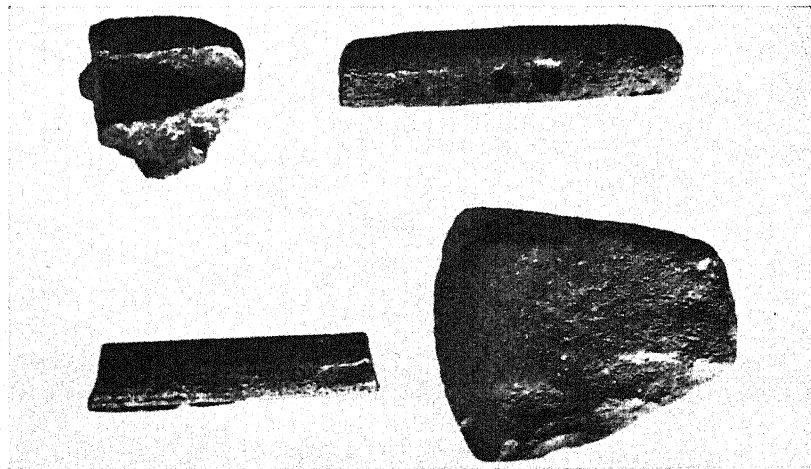


FIG. 1. (1) Stone Axe head.
(2) Cylindrical Slag and Core, Goradi.

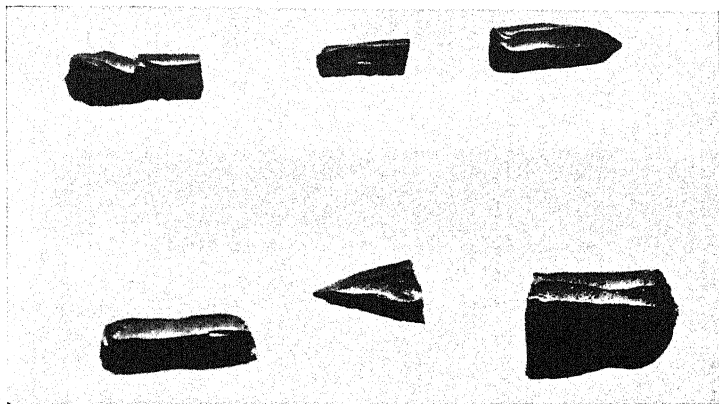


FIG. 2. Hornstone Cores and Flakes,
Banabassa.

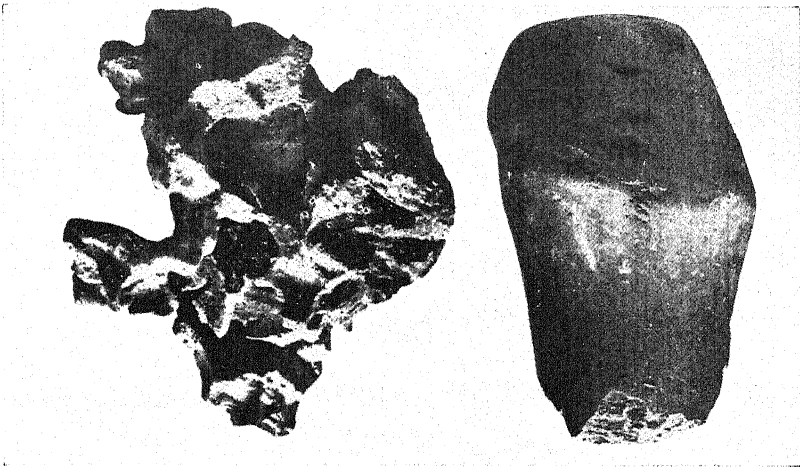


FIG. 3. (1) Bead Slag, Bonidi.
(2) Broken Pestle, Rakha.

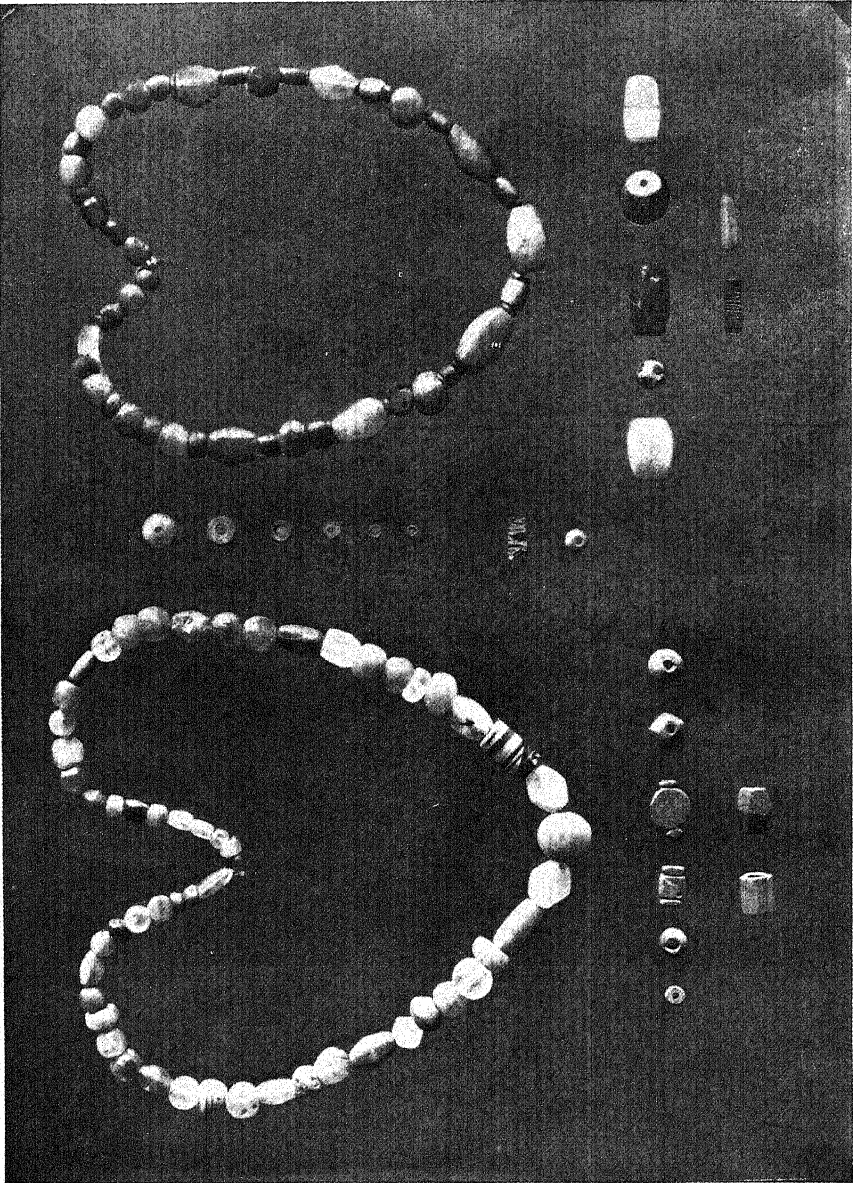


Photo of Beads.

Panegyric of Malaivamma.¹

By CHINTAHARAN CHAKRAVARTI.

The panegyric which consists of eighty-four verses is a rather unique one. The verses form part of a Tantric work² which deals with *Yantras* or symbolic diagrams. The description in it of each *Yantra* is concluded by a verse describing the author's patron or one of his ancestors, children or relatives referred to as having obtained success through the worship of the *Yantra* under description. It is gathered from these verses that Malaivamma, the patron of the panegyrist, who ruled over the hilly country called Rukma, situated on or near the mountain called Tākama, was the son of Ghanasāmamalla and Pārvatī (daughter of Virabhadra) and grandson of Sāhamalla. It is stated that he married Mahalavasantā, daughter of Dalasāhi and Subhadrā, whose dominions lay on the hill called Khāñci. As many as seven sons were born to the king each of whom has a verse devoted to him. The magnanimity of the king, especially with reference to the author, is extolled and it is definitely asserted that he gave to Premanidhi, the author of the work mentioned above, considerable property and a house in Benares. It is further stated that he consecrated a temple to god Śiva at the confluence of the Maṅgalā and the Gaṇḍakī. He also secured the release of the king of Mustāñ who was made prisoner in Kākavenī by Jumaliśvara. Incidentally the panegyric gives a detailed genealogical account of Malaivamma going as far back as his eleventh ancestor and as far down as his grandsons.

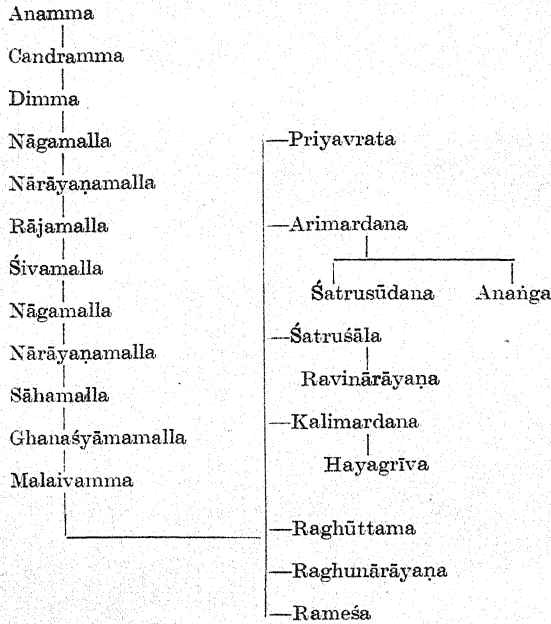
¹ Malaivamma was the king of a principality in Nepal which was later on conquered by the Gorkhas. The country ruled by him was included in the Chaubisi states of the Sapt Gandakī Pradesh of the present kingdom of Nepal. A short but imperfect history of the rulers of this place is given by Hamilton (*Account of the Kingdom of Nepal*, etc., Edinburgh, 1819, pp. 269-72).

I am indebted for this information to Mr. Suryavikrama Gewali, author of *The Life of Prithvinarayan Shah*, published by the Nepal Sahitya Sammelan.

² This is a commentary on the *Yantra* section of the *Sivatāṇḍava* (Chapters XII-XIV). The RASB possesses two MSS. of the work—one complete and the other incomplete.

One MS. of the work was described by Prof. Peterson (*Cat. Sans. MSS. Ulwar* No. 2389), but he made no reference to these verses. Pandit Narayana Shastri Khiste also has taken no notice of them in his article on *The Life and Works of Premanidhi* (*Nāgarīpracārīṇī Patrikā*, Vol. VI, 1982 V.S., pp. 371-379).

The genealogical table may be constructed thus on the authority of these verses:—



The author of this panegyric was Premanidhi Pantha who hailed from Kūrmācala or Kumaon. It is learnt from the concluding verses of his works that he was the son of Umāpati and Udyotamati and was a worshipper of Kārtavīrya. Little is known about his life and family. We are told that he had sorrowful bereavements in his family. He lost his beloved wife at a comparatively young age. It seems he thereupon left his ancestral home and came to be settled in Benares where on the completion of his commentary on the *Śivatāṇḍava*, he was given considerable property and a house by his patron and disciple Malaivammadeva. Reference is made to two daughters of his—Mahālakṣmī and Kanakā. This much of his personal history may be gathered from his commentary on the *Śivatāṇḍava*¹ in which he incidentally describes his patron and makes reference to himself.

1 खणादिप्रचुरं हिमांशुरचिरं सौभाग्ययुक्तं गृहं
पूर्वं संहरतो यमस्य शतशो दुष्कीर्तिरेव स्मिरा ।
खणादिप्रचुरं सुभांशुरचिरं सौभाग्यपूर्णं गृहं
यत्तत्त्वं हि मया पुनर्नवतमं श्रीमन्मल्लैवस्मृतः ॥ १ ॥
मयेत्यस्मादा ज्येष्ठभार्यावियुक्तः प्रकृतग्रन्थकर्ता विवक्षितः ।

It appears from the introductory verses of the *Sudarśanā*¹ (commentary on the *Tantrarājatantra*) that he had a third wife, Prāpamañjarī by name, who composed the commentary in memory of her son called Sudarśana. The name of the father and the mother of this wife are given as Harṣadeva and Harṣamati.

The time when he flourished is roughly indicated by the references to dates of composition given in some of his works. We are told that he composed the *Mallādarśa* and the *Dīpa-prakāśa* in 1648 Ś.E., *Prthvipremodaya* and the commentary on the *Śāradātilaka* in 1659 Ś.E., the *Jagatpremodaya* in 1663 Ś.E., the *Prāyascittapradīpa* in 1675 Ś.E. This would point to the second quarter of the eighteenth century together with a portion of the third as the period of his literary activities.

Premanidhi was the author of a good many works on Tantra and Smṛti. He himself refers to some of them. He mentions six works of him at the end of his commentary on the *Śāradātilaka*, and three at the end of the *Śabdaprakāśa*, while the *Mallādarśa* incidentally refers to the *Bhaktitarāṅgiṇī*. In the descriptive catalogue and the lists of his works based on them as given by Aufrecht and Kane different portions of the same work appear to have in some cases been indicated as separate

किञ्च, रे रे पाप कृतान्त मांसमयमङ्गेहापहाराच्छया

भुक्तिर्मेऽपहृता कृता वत मङ्गलक्ष्मीश्च निर्मादका ।

काश्यामेव मया दृषन्मयगृहे प्राप्ते मल्लैवस्मृतौ

विन्यस्तापरमातृके किल मङ्गलक्ष्मीवरो वासितः ॥ २ ॥

मङ्गलक्ष्मीश्च ग्रन्थकर्तुः कन्योक्ता । अपि च,

पिशितमयगृहं किं नृत्युना भुक्तिबीजं

हृतममलमकस्मादस्मदेकाश्रितस्य ।

इति मङ्गलवसन्तायुग्ं मल्लैवस्मदेवो

दृढकनकसुक्तायुक्तग्रेहं ददाति ॥ ३ ॥

ग्रन्थकर्तृद्वितीयया कन्या यदि कनकापदेन विवक्षिता तदा दृढा कनका यन्त्रेत्यर्थोऽपि सम्भवति । अन्यच्च,

किं स्वर्यसूत्रो तव भर्मेराजता बलाद्गृहीता मदुपाश्रयेण हि ।

श्रीमन्मल्लैवस्मदपेण केवलं कृतान्ताशेष ततः प्रकुप्यसि ॥ ४ ॥

Fol. 37B of the MS. described under ASB. VIII, 6817. Also of. the last verse of the panegyric.

¹ *Nāgarīpracārīṇī Patrikā*, N.S., Vol. VI (1982 V.S., p. 376, f.n.). The commentary is also attributed to Premanidhi (Cat. Cat. I. 222, II. 46). A portion of the commentary is preserved in a fragmentary manuscript described in ASB. VIII. 6819. An edition of its first chapter on the basis of one imperfect manuscript belonging to the Sanskrit College of Calcutta has been published by Dr. J. B. Chaudhuri (Calcutta, 1940).

works. The same work has also sometimes been referred to under different titles. A brief account of the works on which more or less definite information is available is given below:—

1. *Prayogarātnākara* deals with the rites in connection with the worship of Kārtavīrya. No complete MS. of the work is known. Portions of the work found scattered in different parts of the country made it difficult to form an idea of the exact nature of the work. Eggeling in his India Office Catalogue (I.O. IV. 2595) frankly acknowledges this difficulty. A MS. of the concluding portion of the work belonging to the old collection of the Royal Asiatic Society of Bengal contains a detailed list of contents and thus indicates its extent and reveals its identity. It is gathered therefrom that the work is complete in three parts, each divided into several chapters. The Government Collection of Sanskrit Manuscripts in the RASB contains a MS. of the first three chapters of the second part of the work while MSS. containing the first nine chapters of the first part and the last three of the third part are found respectively in the India Office (I.O. IV. 2595) and the old collection of the Society (No. I.E. 54). Several other chapters, not identified heretofore, are also found scattered in different places. Thus the old collection of the Society contains MSS. of the last chapters of Book II as also first and second chapters of Book III (Nos. I.E. 52 and III. D. 65). A MS. of the first chapter of the last Book has already been described in ASB. III. 2412 and Nep., II., p. 141.

2. *Prthvīpremodaya*¹ (composed in 1659 Ś.E.). The last section of the work appears to deal with *Prāyaścitta*. A fragment of a work on *dāna* found along with the Society's incomplete MS. of the *Mallādarśa* may not unlikely belong to this work one section of which deals with *dāna*.

3. *Jagatpremodaya* (ASB. III. p. 189). The work was composed in 1663 Ś.E. This, at least a part of it, deals with *Prāyaścitta*.

4. *Prāyaścittapradīpa* (composed in 1675 Ś.E.)². A work of the same name composed in 1654 Ś.E. is also attributed to the patrons of Premanidhi—Malaiamma and his wife. A MS. of this work is reported to exist in the library of Rajguru Hemraj of Nepal³.

5. *Dīpaprakāśa* (ASB. VIII. 6511). The work deals with the rite of dedicating lamps to Kārtavīrya. The topic also covers the first chapter of the last Book of the *Prayogarātnākara*.

¹ I am indebted to Mr. P. K. Gode, Curator of the Bhandarkar Oriental Research Institute, for kindly supplying me with a description of the fragmentary MS. of the work belonging to the Institute.

² Kane, *History of Dharmaśāstra* (p. 713). The concluding verses of the Commentary on the *Śāradātīlaka* refers to the work.

³ I am indebted for this information to Mr. Suryavikram Gewali of Darjeeling.

6. *Śabdaprakāśa* (ASB. VIII. 6511A). This constitutes a commentary by the author himself on his *Dīpaprakāśa*.

7. *Bhaktitarāṅginī* or *Bhaktatarāṅginī* referred to in the *Mallādarsa* as well as at the end of the *Śabdaprakāśa*.

8. Commentary on the *Śaradātilaka* which is stated to have been composed in 1737 A.D. and a MS. of which is mentioned by Stein in his Catalogue of the MSS. of the Raghunath Temple Library, Kashmir (p. 237).

9. Commentary on the *Śaktisaṅgamatantra* (Cat. Cat. I. 364, 623).

10. *Mallādarsa*, a commentary on the *Yantra* section of the *Śivatāṇḍava*. The RASB possesses two MSS. of a work of this name—one of which refers to Premanidhi as its author, while the other, which is incomplete, is bigger but anonymous and has slight occasional agreements with the former. The MSS. are described in ASB. VIII. 6817, 5971. Though the name of the author is not indicated in the latter MS., it has most of the introductory verses of the former and it refers to other works of the author in terms that clearly point to Premanidhi as its author as well¹. The date of composition of the work is stated to be 1648 Ś.E. (Khiste, *op. cit.*, p. 374).

The verses of the panegyric of which only the first one is found in the portion preserved in the incomplete MS. (Fol. 123A of the MS. described under ASB. VIII. 5971 where it is wrongly attributed to Ghanaśyāma-malla) are published below on the basis of the complete MS. (ASB. VIII. 6817). It will be noticed that the verses are full of corrupt readings which cannot be corrected without the help of other MSS. It is however expected that the published text, though corrupt, will be helpful in the study of the history of the Varmanas of Nepal.

LIST OF ABBREVIATIONS USED IN THE PAPER.

ASB.—Descriptive Catalogue of Sanskrit Manuscripts belonging to the Government Collections in the Asiatic Society of Bengal.

Cat. Cat.—Catalogus Catalogorum, by T. Aufrecht.

I.O.—Descriptive Catalogue of Sanskrit Manuscripts in the Library of the India Office, by Eggeling.

Nep.—Catalogue of Palm-leaf and Selected paper MSS. belonging to the Durber Library, Nepal, by H. P. Shastri.

¹ इत्यादिकमधिकमस्तुतभक्तितरङ्गिण्यादिग्रन्थादवसेयम्—Fol. 104A.

TEXT OF THE PANEGYRIC.

- Fol. 24A, विविधतरनराणां पालने भूरिहा[भा]रो
 हरिचरणसमर्चाचेतसो नैककस्य ।
 भवति सदनयोग्यो ह्येतिकान्ताद्वितीयः
 समवति नरलोकं श्रीमल्लैवम्भूपः ॥ १ ॥
- 26A, महलपदमुपात्तं भाषया गेह्वराजे
 सततमिह वसन्तस्तत्कृपातोऽथवैषा ।
 खयुतवृत्तिदत्ते तत्र वाज्ञावसन्त-
 स्त्विमिमहलवसन्ता नाम राज्ञ्याः कृतार्थम् ॥ २ ॥
- 26B, अस्तुत्तरस्यां दिशि स्वस्मनामको
 देशस्तस्माकमसंज्ञपर्वते ।
 आनम्भूपालवपुःसमाश्रितो
 गत्वा प्रजाः पालयति स्म केशवः ॥ ३ ॥
- 27B, चन्द्रस्मनामवृत्तिर्दिग्दण्डविद्यात्
 तत्तद्विनोदविनिवेदितभूरिवित्तः ।
 आनम्भूपतनयः सकलाः प्रजा यः
 स्नानन्दिताः किल चकार नकारमुदः ॥ ४ ॥
- 28A, चन्द्रस्मभूपादुदभूदपूर्वी
 राजाधिराजः किल दिग्मनामा ।
 यस्मिन् महौ शासति नाकवाञ्छा-
 दरिद्रताभूदखिलेऽपि लोके ॥ ५ ॥
- 28B, श्रीदिग्मभूपालसुतस्त्वपूर्वी गुणैरभूदभूतपतिनागमलः ।
 नागः प्रजा अस्य कदापि चक्रुः सुनौतिकेतुस्तदयं तु नागः ॥ ६ ॥
- 29A, श्रीनागमल्लादुपमादरिद्रो
 बभूव नारायणमल्लभूपः ।
 यस्मिन् क्षितौ तिष्ठति देवल्लोको
 लक्ष्म्या विहीनोऽभवदाप्तशोकः ॥ ७ ॥
- 29B, बभूव नारायणमल्लभूपतः श्रीराजमल्लः क्षितिपालकाग्रणीः ।
 प्रजाप्रजार्जनकर्मतो भृशं राजेतिनामार्थयुतं चकार यः ॥ ८ ॥
- 30A, श्रीराजमल्लतनयो विनयाम्बुराशिः
 सम्मानिताखिलधरासुरकावतंसः ।
 स्त्रीयप्रतापपरितापितवैरिसार्थं
 आसीदसीमगुणकः शिवमल्लभूपः ॥ ९ ॥

Fol. 30B, नरपतिशिवमल्लादुद्गतो नागमल्लः

क्षितिपतिवरमौलिप्रस्फुरद्रवभूतः ।

निजगुणगणवर्यैरद्वितीयो द्वितीयः

सकलरुचिरगोष्ठीस्वागतः स्वप्रसङ्गः ॥ १० ॥

31A, बभूव नारायणमल्लभूपो द्वितीय उर्वीपतिवन्द्यपादः ।

यो नागमल्लस्य पितुर्वियोगं विस्मरयामासतरां प्रजानाम् ॥ ११ ॥

31B, अस्मिन् वृपालरत्नाकरे तु वंशार्णवे तस्मात् ।

विद्वल्लक्ष्मीहेतो जातः श्रीसाहसल्लेन्दुः ॥ १२ ॥

32A, घनश्याममल्लो घनश्याममग्नौ

वृषः कोऽप्यभूत् साहसल्लवि[क्षि]तीन्द्रात् ।

यदीयप्रजानां विषादः शिवाग्नी

परो नीतिसङ्गादनौतिश्च सङ्गात् ॥ १३ ॥

32B, घनश्याममल्लक्षितौन्दस्य पुत्रो

वृषः श्रीमल्लैवस्मनामा सुरद्रुः ।

हरिर्वा रविर्वा विधुर्वा स्मरो वे-

त्यलं सर्वधर्मः सतां संशयक्ष्मा ॥ १४ ॥

33A, हरिमदनशशाङ्कस्त्रुभान्वादिशङ्का-

परिहृतिकरणाय श्रीमल्लैवस्मपत्यौ ।

इह महल्लवसन्ता नाम कलेन्द्रैव

प्रणिभवति धरायामर्थिसार्थार्थहेतुः ॥ १५ ॥

33B, श्रीमन्मल्लैवस्मवृपालस्तनवः

सहोदराः सप्त मतास्त्रिरायुषः ।

प्रियव्रतस्तेषु कुमार आदिमः

कुमारभारादिविजिहुरः ॥ १६ ॥

34A, पुत्रोऽसावरिमर्दनो नरपतेरास्तेद्वितीयो गुणै-

राद्यः सद्युविनयादिना निजवशीभूतोभवद्विस्वकः ।

योऽरीणां बलतः प्रतापदहनज्वालोपशान्त्यादितः

सत्प्रज्ञैरिमर्दनेत्यभिधया संयोजितः सार्थकः ॥ १७ ॥

34B, गुणैर्युतश्चापि गुणैर्मितश्च श्रीमन्मल्लैवस्मवृपालस्तनवः ।

अर्थेन नाम्ना च स शत्रुशालः शस्त्रार्थकं शालमिदं त्विहास्ते ॥ १८ ॥

35A, कलिमर्दननामास्ते तूर्यः श्रीराजसत्पुत्रः ।

कलियुगविभवजयायानुत्पत्त्यान्वर्थसंज्ञोयम् ॥ १९ ॥

36A, भवति रघूत्तनामा पुत्रः श्रीभूपवर्यस्य ।

यः संख्ययापि कान्त्या धत्ते कन्दर्पमानत्वम् ॥ २० ॥

- Fol. 38A, रघुनारायणनामा राजकुमारी जयति षष्ठः ।
आजन्मार्जितदुःखध्वान्ते रविरिव हि यन्नाम ॥ २१ ॥
- 38B, भानुचन्द्रवलिकर्णसमुद्रक्षित्यनङ्गगणवानिति किं च ।
सप्तमः क्षितिपतेस्तु कुमारः श्रीरमेश उदितश्च रमेशः ॥ २२ ॥
- 39A, श्रीमद्रूपालतनयादरिमर्दनाख्याद्
अभ्युद्गतो बुध इवात्र सुधांशुदेहात् ।
यः शत्रुसूदनपदेन गतः प्रसिद्धिं
स स्यादरातिमथनेन यथार्थनामा ॥ २३ ॥
- 39B, अरिमर्दनराजिन्द्रकुमारस्यापरः सुतः ।
अनङ्गनामा सध्वङ्गशिरोमणिजराग्रणीः ॥ २४ ॥
- 40A, रविनारायणनामा पुत्रः श्रीशत्रुशालस्य ।
रविनारायणतेजा बोभूयान्नृहरिकरुणातः ॥ २५ ॥
- 40B, कलिमर्दननाम्नोक्ति पुत्रो नाम्ना हयग्रीवः ।
भवतु हयग्रीवकृपावशेन तत्सम्भवस्त्वाद्यः ॥ २६ ॥
- 41A, मङ्गलागण्डकौसङ्गमे पुष्पदेशे
अदया साधुभिर्दंशितेनाध्वनैव ।
यः किलोमापतेर्ग्रीवजं सङ्ग चक्रे
तन्मल्लैवम्मतो नित्यसौखास्तु पृथ्वी ॥ २७ ॥
- 41B, कस्मात् खगर्भे त्रिदशः समस्ताः
शिलास्वरूपा विहिता हिता नः ।
इतीव बभ्राति हि गण्डकीं द्राक्
श्रीमन्मल्लैवम्मतल्लोकशास्ता ॥ २८ ॥
- सकलसुखहृदा मे वल्लभेन चिनेत्रो
रहसि समुपनीतो गण्डकीनामवध्वाः ।
भवसि किमिति विघ्नं तत्र याता पुरस्ताद्
इति मङ्गलवसन्ता मङ्गलां किं बबन्ध ॥ २९ ॥
- 42A, यो लोलयैव सकलामरराजमौलि-
रत्नानि नैजघ्नतिकर्मछते ददाति ।
तं रावणं वदितपुष्पमिवाकरोद् यः
कारागृहे कमपि तं भज हैहयेशम् ॥ ३० ॥
- 43A, अद्यापि दारिद्र्यपदस्त्रिरल-
सङ्घिष्णुभिः कर्णमुखैः कृतं किम् ।
इत्येव मत्ता भुवि कल्पवृक्षः
श्रीमन्मल्लैवम्मतनुं प्रयातः ॥ ३० ॥

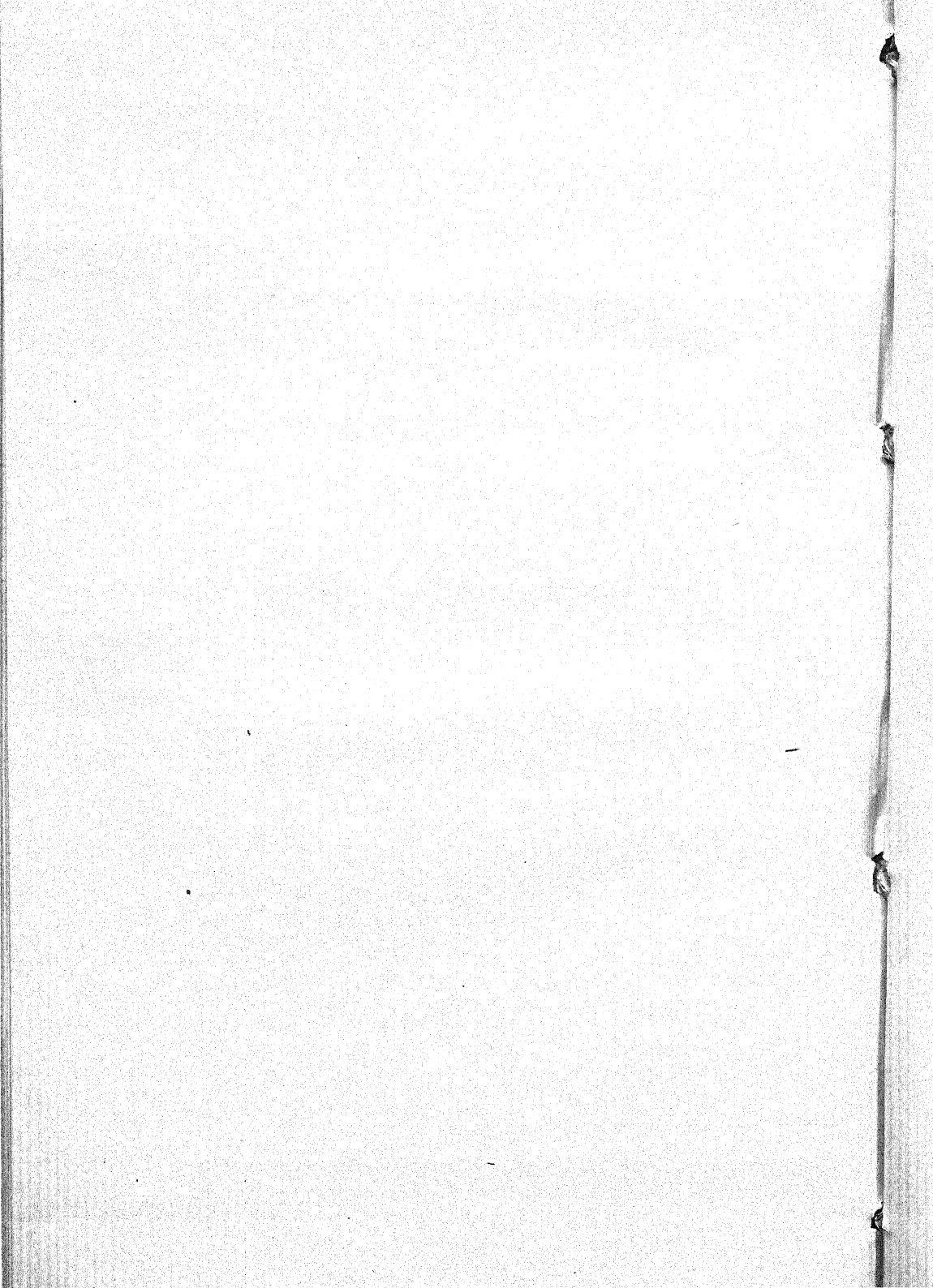
- Fol. 45A, किमिति भजति शिष्टान् प्रीतितो निखुवेयं
परपुरुषनिविष्टेत्येव राज्ञी सुहृष्टा ।
किमु मल्लवसन्ता द्वेषणार्थं तयोर्द्रागं
इह भवति सुयन्त्रे साधकालीवरिष्ठा ॥ ३१ ॥
- 47A, श्रीमन्मल्लैवम्वपालवरिणां दुष्क्रीर्तिकान्ता निजसन्ततिं किमु ।
समीहमाना विद्वात्पुपासनाममुष्य जाता यदखण्डसन्ततिः ॥ ३२ ॥
- 47B, मुस्ताडभूपतिवरं किल काकवेष्ठां
खड्गं खदर्पवशतो जुमल्लौश्वरेण ।
संभोचयन् करुणया खचसूबलेन
प्रत्यर्थिष्टन्दमखिलं जयति स्म राजा ॥ ३३ ॥
- 49A, श्रीमन्मल्लैवम्वपालखरिणा
प्रायस्त्विदं यन्त्रसुपासितं पुरा ।
न चेन्मनोज्ञा पतिदेवतोत्तमा
लभ्येत कान्ता कथमिन्दिरा परा ॥ ३४ ॥
- 49B, महाराजश्च राज्ञी च साधकौ पूर्वजन्मनि ।
आनुकूल्यं यतोऽन्योन्यं त्रिवर्गपरिवर्धनम् ॥ ३५ ॥
- 50A, श्रीमन्मल्लैवम्वपालवर्यः प्रायस्त्विदं साधितवान् पुरैव ।
यस्मादमुष्यारिवरौघनार्थी रणादपेतं नृगयन्ति कान्तम् ॥ ३६ ॥
- 50B, मल्लैवम्वभूषः प्रसन्नस्माराख्य-
द्विपं स्त्रीयसंसर्गतो मत्तनादम् ।
प्रदृष्टिं सद्विवेकं समाश्रित्य यन्त्रा-
दितो दूरदूरं चकारातिवेष्टम् ॥ ३७ ॥
- 51A, साधितं नृपतिना भ्रुवमेतत्
पूर्वमेव जुमल्लौश्वरमुखैः ।
यत्कृतापि किल विधिना किल
कृत्या निष्फलपदवीसुपभुङ्क्ते ॥ ३८ ॥
- 51B, ताकमनामकशैलो न न्यूनो नाकतो भवति ।
राजेन्द्रः करकल्पः शची तु राज्ञी कृपाधेनुः ॥ ३९ ॥
- 52A, मल्लैवम्वभूषपत्रजारातिचेतो
न चैकत्र देशे स्थिरं जालपीडि ।
ततो वेद्मि सत्यं पुरा जन्मनौदं
स्वसाध्वीकृतस्वामिकं चारुयन्त्रम् ॥ ४० ॥
- 52B, श्रीराजराजेश्वरमित्यदौपदानप्रभावाद्युयितारिपक्षः ।
अप्यन्यशिक्षार्थमिदं सुयन्त्रं संसाधयामास नृलोकपालः ॥ ४१ ॥

- Fol. 53A, यो यौवनेपि विषयस्युद्धया विहीनो
भूत्वा प्रभुः शिवपुरीमविसुक्तसंज्ञाम् ।
गत्वा यथाविधि कृतत्रिपुरारिपूजा-
गङ्गावगाहनसुखः कृतकृत्य आस्ते ॥ ४२ ॥
- 53B, सेत्तसस्यधरणीं विदुषे यः
अदया कवलितो यदुभर्तुः ।
प्रीतये प्रणिददाति स राजा
साधकोत्र गदितः करुणाब्धिः ॥ ४३ ॥
- 54A, सुवर्णधेन्वादिकदानतः सतां
दारिद्र्यदावानलकालवारिदः ।
श्रीमन्मल्लैवस्मटपाल इदृशो
यन्त्रेऽपि जातः किल साधकाग्रणीः ॥ ४४ ॥
- 54B, सहस्रशः सन्तु नृपाः श्रथिष्यां
नामुष्य कुचाप्युपमालवोपि ।
अहर्निशं पण्डितमण्डलीस्थो
यः श्रीपतेरेव करोति चर्चाम् ॥ ४५ ॥
- 55A, सदा सदाभागवतं पुराणं
तथा महाभारतमुख्यमन्यत् ।
श्रीकृष्णलीलाचरितानुवादि
प्रियं मल्लैवस्मटपस्य नान्यत् ॥ ४६ ॥
- 55B, श्रीराजराजेश्वरवर्मराजपाठेन नित्यं क्षपितोपसर्गः ।
श्रीमन्मल्लैवस्मटपो निसर्गसिद्धातिदानावितसाधुवर्गः ॥ ४७ ॥
- 56A, पदे पदे सन्ति नृपाः प्रजानां
करग्रः द्यौर्दमनैकदक्षाः ।
श्रीमन्मल्लैवस्मटपोपमातः
क्वावासमेषा लभतां श्रथिष्याम् ॥ ४८ ॥
- 56B, अलब्धकामो नृपतेः परस्मात्
सन्त्यज्य सन्त्यज्य परं तमर्थी ।
सर्वोऽपि लब्धार्थ इहास्ति तूर्णं
श्रीमन्मल्लैवस्मटपाश्रयेण ॥ ४९ ॥
- 57A, सर्वप्रजालेचसुरक्षणेदुरः कथं मल्लैवस्मटपालकाग्रणीः ।
भवेन्न चेत् पूर्वभवे विधानतः स्तूपासको यन्त्रपतेरमुष्य तु ॥ ५० ॥
- 57B, असुना श्रथिवीश्वरेण किं प्रथमे जन्मनि साधु साधितम् ।
न हि यन्त्रमिदं न चेत् कुतो गतदस्युन्नजमीतिकाः प्रजाः ॥ ५१ ॥

- Fol. 58A, यथा पयशपूरादिकूटदुर्गजयोद्धुरः ।
श्रीमल्लैवम्भूपाल एतद्यन्त्रस्य साधकः ॥ ५२ ॥
- 58B, संसारदुर्गजय ईश्वरभक्तियोगाद्
भक्तिः सदा यवणतो वचसां युतीनाम् ।
सत्पण्डितादिदमहो शुभपण्डितौघो
द्रव्यसृष्टाविरहितो धनवन्ततोऽस्य ॥ ५३ ॥
- 59A, श्रीमन्मल्लैवम्भूपालवैरिणां वीर्यस्य संसन्धनकारकं त्विदम् ।
यन्तं कुतः शक्यविबोधमूढतामुपैति वीर्येतिपदस्य बुद्धिमत् ॥ ५४ ॥
- 59B, धाढभ्यो यः पितृदत्तादशेषाद्
ग्रामान् स्त्रीयादण्यसौ वीतहृत्तः ।
सोऽयं राजा श्रीमल्लैवम्भनामा
नान्यक्षौणिपालकर्तव्यकर्मा ॥ ५५ ॥
- 60A, अमुना राज्ञा नूनं साधितमेतत् पुरा यन्त्रम् ।
निर्विघ्नं कृतकृत्या प्रजा यदस्यास्ति सर्वापि ॥ ५६ ॥
- 60B, यः समस्तपुरुषार्थसाधकः शत्रुसङ्घगुणहृदिबाधकः ।
स्त्रीयराज्यचरचौरसायकः केवलं हरिगुणाभिगायकः ॥ ५७ ॥
- 61A, प्रतिदिवसमवश्यं दौपदानं विधाय
क्षितिपतिपतिवर्माभीतिसंज्ञकेताः ।
निजगणगणतोत्राशेषभूपालरत्नं
जयति जयति भूमौ श्रीमल्लैवम्भशक्रः ॥ ५८ ॥
- 61B, संसारसर्पभयतः कथमेष युक्तो
न स्यादहो नरपतिर्यदि साधितो न ।
यन्त्रेश्वरोयमथवा करुणाश्रुताब्धे-
र्लक्ष्मीपतेः परिचितः परिपन्निराजः ॥ ५९ ॥
- 62A, शालेति शल्येति पदार्थवाचकं
स्ववैरिणां शल्यमिवातिदुःसहः ।
यदग्निभूतोऽरिषु तेन च ध्रुवं
स शत्रुशालोऽग्निमितः प्रभोः सुतः ॥ [६०] ॥
- 63B, प्रथमजनुषि जातः श्रीघनश्यामदेवो
मयि विहृतिनिराशः साम्प्रतं नैतदेव ।
उच्चितमिति तु मत्त्वा पार्वती वीरभद्र-
क्षितिपतितनयासीच्छ्रीघनश्यामराज्ञी ॥ ६१ ॥
- 64A, घनश्याममल्लानुपात् पार्वतीतः कुमारश्च माराद् वरः कोऽप्यपूर्वः ।
हृत्पालो मल्लैवमः स जानो यतः स्वर्गदेवाद् वरा भूमिदेवाः ॥ ६२ ॥

- Fol. 64B, अरिमर्दननामासौ राजकुमारो द्वितीयो यः ।
सुकुमारकुमारतुला मारतुला चात्र हीनत्वम् ॥ ६३ ॥
- 65A, खाञ्चीनामकशैले राजा दलसाहिनामाभूत् ।
यस्मिन् सौशसति पृथ्वीं नरका रिक्तत्वमायाताः ॥ ६४ ॥
- 65B, दलसाहिराजपत्नी भवति [सुभ]द्रा सदा भद्रा ।
अतिवीरकर्मतोऽसुं मत्तार्जुनमिह सती पुनर्जाता ॥ ६५ ॥
- 66A, नरवरदलसाहित्रीक्षितौन्द्रात् सुभद्रा
जनयति जनमध्ये चारुसंगेयकीर्तिः ।
इह महलवसन्तामिन्दिरा या नरेशं
भजति च कुसपत्नी श्रीमल्लैवम्भूपम् ॥ [६६] ॥
- 66B, अरीणां तु मत्ताः क्षणा[द्]ध्वस्तागर्वा
मल्लैवम्भूमिपतेस्तेन शङ्के ।
पुरा जन्मनीदं मद्यायन्त्रमुच्चैः
समाराधितं स्यादिति स्त्रीयबुद्ध्या ॥ ६७ ॥
- 67A, श्रीमल्लैवम्भूपाल उत्तमं
यन्त्रं त्विदं साधितवान् पुरैव ।
यद्वैरिभूमौश्वरसत्प्रतापो-
ऽनल्पानल[ः] स्फुलिततामवापितः ॥ ६८ ॥
- 67B, श्रीमन्[म]ल्लैवम्भूपालः साधकोऽसुख्य वर्तते ।
कुलटद्विस्त्रितरथा कथं स्यादिति दुर्लभा ॥ ६९ ॥
- 68A, नाकपालसदृशारातिपाते न्विप्रवेगमपि वैरिणामेषः ।
कुण्डितां गतिमहो विदधाति क्षापतिर्वरदयन्त्रकृपाभिः ॥ ७० ॥
- 68B, नूनमेष वृपतिः पुरा भवे यन्त्रराजसमुपासकाग्रणीः ।
नो यदीत्यभ[व]दे[मे]व नित्यशो जायतां कथमहो मद्याजयो ॥ ७१ ॥
- 69A, राज्ञी महलवसन्ता सशस्त्रपृथ्वीप्रदानाद्यैः ।
सन्तोषितभूमिसुरा भूमिसपत्नीप्र[त]थास्त्रि भूपस्य ॥ ७२ ॥
- 69B, असुना नरपालस्वरिणा न न संसाधितमस्त्रि यन्त्रकम् ।
यदमी मनवोऽखिला अपि प्रतिवर्षन्ति समस्तसम्यदः ॥ ७३ ॥
- 70B, श्रीराजराजेश्वरदीपदान-
प्रतापविद्रावितचौरसंघः ।
अनीतिराज्योपि सनीतिराज्यो
नूनं पुरा जन्मनि साधकोऽस्य ॥ ७४ ॥

- Fol. 71A, श्रीमन्मल्लैवम्भपाल आस्ते ह्यमुष्य यन्त्रस्य तु साधकोऽत्र ।
न चेदमौ वैरिण उद्भूताः स्युः कुतोऽतिवैकल्यपदं प्रयाताः ॥ ७५ ॥
- 71B, धर्मार्थकाममोक्षा यद्द्वारे भृत्यभावमापन्नाः ।
जयति मल्लैवम्भाख्यो राजा कल्पद्रुमावेशः ॥ ७६ ॥
- 72B, साधकोऽत्र नरपालनाथको गायकः प्रतिपदं रमापते ।
कर्मणामखिलकामदायकः मण्यको रिपुकुलक्षये ध्रुवम् ॥ ७७ ॥
- 73B, घनश्यामसूनुर्न मारः कुमारी
न वा पार्वतीजो महादानशूरः ।
न कल्पद्रुमादिः पतिश्च[ऽ]पि लक्ष्म्या
न वा साधवोऽयं ह्यपूर्वीऽस्ति राजा ॥ ७८ ॥
- 74A, इह महलवसन्ताश्रीमल्लैवम्भदेवा-
वसरनिकरवश्यं यन्त्रमेतद् भजेते ।
न यदि सकलकामा देववश्याः कथं स्युः
करतल्लक्षतवासा एतयोरप्रय[त्ना]त् ॥ ७९ ॥
- 74B, कामधेनुसुरपादपावभावेकशोऽपि जगदार्तिनाशकौ ।
दम्पती तु सुतरामितौव किं तद्दुयुगावतरणं युगं लब्धः ॥ ८० ॥
- 75A, सर्वयन्त्रफलविवितपादः श्रीरमारमणसुस्मरणोत्कः ।
सर्वभूसुरसमौहितमोदः कोऽपि भूपतिपतिर्जयतीह ॥ ८१ ॥
- 75B, हसति हसितवक्त्रा रोषकाले च रुष्टा
शयनजुषि तु सुप्ता स्त्रीयपत्न्यौ निसर्गात् ।
इतिष्टतश्तरूपाकान्त एषोऽतिशान्तो
मनुरपर इहास्ते श्रीमल्लैवम्भनामा ॥ ८२ ॥
- 76A, राज्ञौ महलवसन्ता राज्ञौ रूपानुसारेण ।
अवतीर्णा शतरूपा प्रियव्रतादिशुभपुत्रकाधाना ॥ ८३ ॥
- 76B, यन्त्रस्थोपासको य[ः] क्षितिपतितिलकः श्रीमल्लैवम्भभूपः
काश्यां गेहं सुसौधं प्रतिशरदशनाद्यर्थकं चापि रायम् ।
मल्लादर्शस्य कर्त्रे खगुरकरणया प्रेमनिध्याक्रयाथ
अहामिथो ददाति प्रणिभवतुतसामेष पूर्णाखिलार्थः ॥ ८४ ॥



Philosophy of Rural Reconstruction in China.¹

By JOHN B. GRANT.

THREE MAJOR DESIGNATIONS OF ADDRESS.

Reconstruction in its broader aspect arises from the impact of Science upon Society and the necessity for social reorganization from paleotechnique empiricism to neotechnique experimentalism followed by orderly social control. The narrower aspect is in the sense of overtaking the lag between the twentieth century science and its immediate utilization for human welfare in unindustrialized agricultural society. This latter is the topic under discussion.

Rural reconstruction in China may best be made comprehensible by summarizing the major differences between it and reconstruction in India. Chinese organization is the result of three factors that must be explained to understand the differences. First is the 20 years of field experience and lessons learned. Second is the extension into the communities of the research and training interests of certain leading Chinese universities to develop the methodology of successful reconstruction and to train in these methods the senior staff requisite for administration. Third, the policy of reconstruction, particularly of the universities in question, is based upon defined principles whose acceptance must constitute the point of departure in planning for reconstruction if it is to be either significant or successful. This address discusses reconstruction under the three major designations referred to of experience gained, university participation, and the underlying principles now accepted.

HISTORY.

Rural reconstruction in China developed in the years between the end of the Great War and 1937. This period had two chapters—the first of empirical hit-and-miss methodology lasting till 1934 and the second, a period of systematic planned reconstruction based upon enunciated principles. The earlier period had a number of separate efforts very similar and corresponding to those observable regionally in India today. It is unnecessary to report the majority of these on account of their non-reproductiveness and consequent insignificance in determining

¹ An address delivered before the Royal Asiatic Society of Bengal—March 7, 1941.

the main course of evolution. The main movement centres around a single individual J. Y. C. Yen.

Mr. Yen proceeded immediately upon graduation in the Yale University to the Chinese Labour Corps in France during the war as a Y.M.C.A. secretary. His imagination was aroused by the almost complete illiteracy of the several lakhs of his countrymen recruited chiefly from Shantung province and this resulted in his initial efforts in adult education through evolving a basic vocabulary. This war interest led upon his return to China to the establishment in 1921 of the National Association of the Mass Education Movement; and, the circumstances were such that the movement became nation-wide within a short space of three or four years, particularly in urban areas. During this period the movement enlisted the co-operation of scholars to determine the most efficient basic vocabulary of 1,000 Chinese words that could be learnt by the young-adult in a series of lessons covering three months. The beginnings also were made of the requisite literature to implement the basic vocabulary. And, during this period several provinces were stimulated to establish departments of mass education. The predominantly rural character of China directed Mr. Yen's attention towards the agricultural population. Professors of agriculture, mostly trained abroad, were enlisted to prepare the requisite follow-up literature. However, it was found that the material was so far removed from the realities of the problems of the farmer as to be almost useless in interesting him. This led the Association to establish a rural branch in Tinghsien about 100 miles south of Peking, where a few agriculturists settled down to determine through experience what were the real agricultural problems of North China. Mr. Yen was soon forced to the conclusion that no single social field of application of knowledge could progress very far in so backward a community without the concurrent establishment of other fields. He consequently turned for help to the respective university experts in and around Peking, which still was the capital as well as the educational centre of the country. It was this realization of the necessity for a co-ordinated solution of the problem and the manner whereby Mr. Yen was able to enlist the interest and enthusiasm of academic experts which laid the foundation for the planned reconstruction that evolved during the next decade.

It was during this decade after 1925 that 'reconstruction' methodology was experimentally developed in Tinghsien in education, agriculture, public health, etc., based on the economic practicability and social conditions of North China. Both the National and the Provincial Governments gave official status to the Association's work in Tinghsien, originally established for mass education, whereby the Association was given control of the Local Government through its ability to nominate the Magistrate of the subdivision having approximately four lakhs of

population. In the meantime, Mr. Yen solicited funds for support of the work from private channels in China and returned from a trip to the United States with contributions of (£100,000) five lakhs of dollars to support the veritable social laboratory, utilizing more than 100 technical workers which had gradually been established. The success of Mr. Yen prematurely attracted hundreds of officials and others from all parts of China to an extent that the railway authorities had to make special provision for the number of visitors who also seriously hampered routine activities. This prematurity of interest was dangerous through the discredit resulting from efforts made by many upon their return to their own localities to reduplicate what they had observed in Tingsien without having grasped the technical implications and, more important, lacking the trained technical personnel to undertake reconstruction.

The singlemost important result from Tingsien probably was the manner in which certain universities in and around Peking were stimulated to extend the responsibility and scope of their social disciplines beyond their academic walls into the community. This resulted in the appreciation that the social sciences, as much as the natural sciences, are not taught to but must be learnt by the students through opportunity for self-participation in community exemplifications of the principles presented in the classroom. Consequently, undergraduate students were sent to Tingsien under their instructors. Thus, in medicine the fourth year students had three weeks' rural, added to their previous urban, 'clerkship' in public health, during which time opportunity was afforded for some participative experience in addition to general orientation in rural reconstruction as a whole through demonstrations provided in each field. This development of university interest coincided with the growing national demand for reconstruction that experience proved could be successful only if based upon effective methodology and personnel trained in such methodology. The natural outcome of this university interest was the establishment of a formal organization in 1936 designated the North China Council for Rural Reconstruction, consisting of five universities, the Mass Education Movement, and the Shantung Provincial Government. The purpose of the Council was stated to be 'a correlated community programme of rural reconstruction through which controlled field facilities and services for applied training and research in the social sciences may be made available to its constituent institutions and to provide personnel of high quality to the various enterprises for social reconstruction in China which now are in so great need of trained workers'. The Council functioned through a Rural Institute which carried on instruction and research in the applied social sciences of civil administration, economics, social medicine, education, agriculture, and engineering. The Council was given political control by

Government of the first administrative area of Shantung province possessing approximately ten million population. The Institute as the joint representative of the Council, universities, and the Government possessed the authority to operate the constituted community facilities through power to nominate its personnel to the official Government posts of the area. The universities' departments as such lost their individual identity in the field and functioned solely through the Institute as their co-ordinating agency. Faculty members resided in the field. Within this area the Council through its Institute designated one subdivision of five lakhs of population as its intensive experimental-demonstration field. The Institute consisted of two divisions—the community service division responsible for the routine administration of the area, composed of the heads of instructional departments together with the chiefs of the sections or bureau of Government, whereby teachers from the universities were concurrently appointed as Government officers. The educational-research division was composed of the heads of departments of instruction, and it was this second division which dealt with all matters relating to the educational and scientific policy of the Institute and whereby its representatives on the community service division was able to control and modify governmental administration in terms of its educational and scientific needs. Planning was done in the first instance by the Institute for subsequent approval by the Council and finally by the Provincial Government. The annual budget of the Institute, apart from routine civil administration expenses, was approximately four lakhs of Chinese dollars.

The Council and its Institute were interlinked by means of either its Council or Institute representatives serving on various boards and committees of National Government and advising the latter's policy on the one hand, while Government in turn was represented on the Council and was able to guide Institute policy in terms of the realities of governmental administration. A Rural Reconstruction Committee of the National Economic Council of the Government was established at Nanking to co-ordinate the different fields of government and corresponding to these represented in the Council's Institute.

The colleges of the participating universities drew up syllabi for their departments to take advantage of such a controlled community and requiring the residence in the field for several months of the undergraduate during the last year of instruction. Students were given a brief horizontal introduction to the several co-ordinated fields of social function before 'clerking' vertically in their specific subject. Special facilities were also designed to permit of a limited number of graduate students in each of the social fields. However, any international consideration of China requires the bearing in mind of certain facts relating to the time when a modern Government was established.

Although the Revolution took place in 1911, it was 1927 before the Nanking Government inaugurated civil administration in the modern sense. The chief cause for the non-implementation of the 1911 Revolution was the absence of technical personnel. The first Government university was established as late as 1905, the first permanent Government medical college in 1912 and other technical colleges even later. Consequently for successful rural reconstruction next to solving the problem of proven methodology, it was considered necessary to establish provincial institutes of public administration to provide personnel of a vocational level. It was to train the teachers for the latter that the University Council Institute set as its instructional task because it was obvious that reconstruction would continue in name only until provided with modern social servants competent to initiate and to supervise the utilization of modern knowledge in the daily lives of the people. Also by 1937, reconstruction in China had reached a stage where an acute problem had arisen to protect the movement from being discredited through unsuccessful results of hurriedly created provincial bureaux lacking the essentials here described, particularly methodology and personnel. At this point it becomes necessary, in order to interpret the Council in its true perspective to comprehend both the background of sociological thought common to the constituent members of the Council, as well as the general social-economic level of rural China. The following representation of the philosophy must be understood as one's own recollection of the numerous references which were in circulation between the various senior members of the Council and the innumerable hours of evening discussions that occurred in the quiet rural atmosphere of originally Tingsien, and later Tsining, the seat of the Institute in Shantung.

PHILOSOPHY AND ECONOMIC LEVEL.

Historians and scientists agree that society is in a major transitional epoch corresponding in its revolutionary character to the two major ones previously experienced by mankind, viz. the period of the preliterate culture to the dawn of history when society was founded and the ancient civilizations were established. This second period continued until the present transformation of society began 300 years ago with the European renaissance. Social reconstruction to be intelligent or rational implies planning. Planning is obviously inadequate unless designed in relation to the eventual social scheme as a whole. The trend of the present transitional period of social organization can be defined only in terms of the past and knowledge of differences in the present resulting from new factors which have arisen. Social thinkers previous to the present century expressed ideas on society which increasingly are now becoming accepted

fact. Thus Rousseau¹ defines the Social Contract of Society as: 'That form of association which will defend and protect with the whole common force the person and goods of each associate; and in which each, while uniting himself with all, may still obey himself alone and remain as free as before'. John Stuart Mill² in 'On Liberty' clearly foresaw what is today the world's crisis when he defined the biological basis which social law must evolve towards in respect to individual freedom of liberty: 'Whenever in short there is a definite damage or a definite risk of damage either to an individual or to the public the case is taken out of the province of liberty and placed in that of morality or law'. Herbert Spencer³ in his 'The Data of Ethics' defined the conflict between collective and individual cultures long before the present crisis arose, proving the truth of his diagnosis: 'But here we are met by a fact which forbids us thus to put in the foreground the welfare of citizens, individually considered, and requires us to put in the foreground the welfare of the society as a whole. The life of the social organism must, as an end, rank above the lives of its units. These two ends are not harmonious at the onset; and, though the tendency is toward harmonization of them, they are still partially conflicting. As fast as the social state establishes itself, the preservation of the society becomes a means of preserving its units. Living together arose because, on the average, it proved more advantageous to each than living apart; and this implies that maintenance of combination is maintenance of the conditions to more satisfactory living than the combined persons would otherwise have. Hence, social self-preservation becomes a proximate aim taking precedence of the ultimate aim, individual self-preservation. This subordination of personal to social welfare is, however, contingent; it depends on the presence of antagonistic societies. So long as the existence of a community is endangered by the actions of communities around, it must remain true that the interests of individuals must be sacrificed to the interests of the community, as far as is needful for the community's salvation. But if this is manifest, it is, by implication, manifest, that when social antagonisms cease, this need for sacrifice of private claims to public claims ceases also; or rather, there cease to be any public claims at variance with private claims. All along, furtherance of the individual lives has been the ultimate end; if this ultimate end has been postponed to the proximate end of preserving the community's life, it has been so only because this proximate end was instrumental to the ultimate end. When the aggregate is no longer in danger, the final object of pursuit, the welfare of the units, no longer needing to be postponed, becomes the immediate object of pursuit'.

¹ Jean Jacques Rousseau, 'The Social Contract and Discourses', p. 14.

² John Stuart Mill, 'On Liberty', p. 48, 1913.

³ Herbert Spencer, 'The Data of Ethics', pp. 133-134, 1879.

Today, it is universally acknowledged that the determining force which shapes society is Economics. The essential factor determining Economics is 'Energy'. Machine energy is synonymous with the Industrial Revolution has been clearly analyzed by Stuart Chase in 'Technocracy: An Interpretation'. Chase advances the conception of energy magnitudes being the condition governing political and social institutions. The present emerging third stage was preceded by two earlier stages. Primitive communities had worked primarily by virtue only of the food eaten by their members converted into physical power of human muscle. The chief engine was the human being and his available energy determined the standard of living of the community and its social institutions. This power of the human engine is measurable by its food intake and is equivalent to 2,000 kilogram calories *per capita* per day and this was the sole energy during the first period of man. The second period originated with the early civilizations when the domestication of animals and crude water power was added to man's energy, thereby doubling the magnitude to 4,000 kilogram calories *per capita* per day. This second period extended for approximately 7,000 years until the invention of the steam engine in 1775. Since that time the machine age, developed with the utilization of coal, electricity, and oil, has stepped up capacity in such a country as the United States to 160,000 kilogram calories *per capita* per day.

It is the lag of eighteenth century economic and political institutions behind this twentieth century power that has become the basic world problem. Reconstruction to overtake this lag in the application of scientific knowledge to human welfare is confronted by two problems: the material one of the lag itself and the larger social one of instituting the necessary collectivism while safeguarding the maximum degree of individual freedom commensurate with the welfare of the group as a whole.

Social reconstruction to be successful requires technical knowledge and the most efficient form of organization for the application of that knowledge. It is axiomatic that the form of administration is determined by political organization and that in turn derives from the *per capita* energy production of the country and the economic philosophy. The organization in democracies has been determined by capitalism. Capitalism as a system was first defined after the beginning of the Industrial Revolution and then passed through the three periods of Industrial, Monopoly, and Finance Capitalism, corresponding roughly to stages in the progress of science particularly with reference to its development of power and transportation, because these two are the new major factors.

Industrial capitalism resulted in the form of social administration designated as democracy but has never attained to the substance. The latter is defined as 'the form of government which asserts the worth and validity of the individual

man and that the aim of society is to secure to him the maximum of responsible freedom'. This definition means that society itself must consciously and responsibly aim at social justice which will ensure the closest possible approximation to equality of opportunity for each member to lead the 'good life'. Consideration of rural reconstruction in the restricted sense of this paper implies the enumeration of the unsocial biological results that have arisen in older industrialized countries and which planning should aim to avoid in countries now becoming industrialized. Such an enumeration includes the problems of population, human migration, race, health, urbanization, rural economic crises, cultural lag, social pathology, including diversification of social classes and groups, and poverty. No successful scheme of rural reconstruction can be formulated without knowledge of, and conscious consideration to obviate, these problems that inevitably follow in the wake of uncontrolled industrialization, economic development, and unplanned democratization. It is not, however, within the scope of this paper to go beyond the hope that officials submitting plans of reconstruction designed to overtake social-economic lag in rural communities possess the knowledge of, and have given the necessary consideration to, the foregoing pre-requisites of historical perspective. Major economic factors arising from scientific progress and their resultant problems when uncontrolled must constitute the background of any thinking, if reconstruction is to claim planned technical competency and is to prove successful.

In addition, the administrator must have the equally necessary knowledge of and consideration for the social fields in which application has to be made. Society in the course of evolution has gradually differentiated, or is in process of differentiating, certain major functions listed below:—

1. Education.
2. Protection of Life, Property, and Natural Resources.
3. Production of Goods and Services. Distribution of the Returns of Production.
4. Consumption of Goods and Services.
5. Communication and Transportation.
6. Recreational Use of Leisure.
7. Expression of Religious Impulses.
8. Expression of Aesthetic Impulses.
9. Integration of the Individual (Service to Society).
10. Extension of Freedom (Political Education).
11. Extension of Knowledge and Adaptation to Invention.

The first seven have been clearly differentiated while the last four are sufficiently recognizable to be thus classified. Certain of these major functions in turn have become so well established that they now have developed subdivisions which are themselves autonomous social administrations, as, for

instance, Public Health under Protection, and Industry or Agriculture under Production, etc. Consequently, individuals responsible for planning reconstruction in the sense of overtaking the lag in utilization of knowledge should presumably possess technical information of the extent the organization and administration of each has developed in progressive countries, particularly with respect to their latest trends in order that their experience is available to obviate introduction of wrong methods of organization and administration in the backward community under consideration. Furthermore, the complexity and vastness of modern social-economic organization implies that the social architects in charge of reconstruction must possess comparable knowledge of *principles* requisite for successful organization and administration of each technical field for which establishment is being undertaken; and, without which the structure planned for is as much doomed to collapse as would be the building of a skyscraper or ocean liner by architects proceeding merely along the lines of neolithic rural-cum-empirical knowledge. An example may be taken from the field of public health.

Public health is organized community effort to provide individuals of the community with the greatest degree of utilization of medical knowledge for the three objectives of maintenance of health, the prevention of diseases, and the cure of disease. The organization to attain these objectives effectively together constitute public health administration. Experience has postulated that efficient administration is proportionate to adherence of the following six principles:—

- (i) The necessity for the administration of the different health functions being undertaken for the whole community by a single governing body and not for different sections of the community by several governing agencies, with necessary co-ordination between inter-related sections; in other words, there should be 'centralized direction and decentralized activity'. The administration must provide for technical supervision and periodic appraisal of the efficiency of the organization.
- (ii) Successful administrative procedure results only from scientific investigation and demonstration of organizational methodology in the measures whereby knowledge can be applied in practice to groups of population. The proper training of the necessary personnel in applying the methodology is an important requirement.
- (iii) Successful administrative procedure must be based upon sound financial considerations and practicable economic budgetting suited to the area and the population. Where cash purchase of health reform

is difficult, the available cash may be utilized for technical guidance and supervision and the citizens may offer trained voluntary labour (= payment in kind), which is the largest item in cash purchase of medical protection.

- (iv) Successful community utilization of knowledge for public health reform and medical protection requires a certain level of politico-economic progress and education. Health of the people is eventually achieved through the people being themselves possessed of adequate education in, and practice of, health knowledge.
- (v) The securing of co-ordination between the related spheres of social services, owing to their mutual interdependence.
- (vi) In order to ensure better working and to avoid mistakes in local effort, *the whole design* of a public health planning must be before the mind from the beginning. Any effort, however small and localized, can confer benefit, if it is designed in relation to the scheme as a whole.

These principles may aptly be termed the normal functions of that organ of society designated public health, and dis-functioning of any one or more must produce social pathology resulting in the symptomology of increased morbidity and excess mortality. The second is the one most observably violated in Bengal, where, for instance, the specific mortality for the past decade from such an entirely controllable a disease as smallpox has been 43 per 100,000 as compared with 0.07 and 0.02 for the Philippines and Java, which formerly had the same high rate as Bengal. Consequently, it behoves that reconstruction relating to medical protection to be successful must be planned in terms of these principles rather than be undertaken empirically and so be doomed to inadequate and disappointing results. Similar competency to plan in terms of principles for *each* social field must be the qualification of any director of reconstruction, who is in this respect comparable to the chief of a general staff who would not presume for an instant to undertake, himself, the planning or the operation in any single field but solely discharges the function of co-ordinating into a whole scheme the technical principles and resultant details from the several differentiated technical fields.

It has been stated, apart from the immediate problem of overtaking the social lag in as backward a community as China, i.e. catching up on the present, that immediate planning had to be undertaken in terms of larger world trends, i.e. in terms of the future, to obviate the necessity later on for reconstructing the organization then being established. The principles govern-

ing and determining the whole eventual social design were not new. For instance, one of the major social results of technological developments since the middle of the nineteenth century was the bringing into prominence of classes who formerly were largely voiceless. 'Democratization of society' ran parallel with the ever-growing interdependence of individual activities upon one another to constitute a large whole of efficient social function. Technological advances transformed individualistic into a herd society, in which individual competition was replaced by group co-operation. The resultant subordination of the individual was compensated by the improved economic and cultural levels necessarily obtainable only through group action and therefore planning. The impact of science and industrialization upon *laissez-faire* agricultural civilizations increasingly created individual insecurities, thereby resulting in herd impulses towards salvation by organized security. This produced expediency palliatives through various forms of social welfare and new deals inaugurated especially during the past half a century. One of the results is the transition from recording history in terms of the past to the development of a sociology attempting to shape history out of the emergent forces of the social process now going on and so avoiding the necessity for future palliatives. This recent trend is important as marking the first period when man is collectively setting up goals and organizing himself and society towards scientific attainment of these goals through planning and planned thinking.

Planning requires grasping the complex of events from a number of key positions, from each of which the whole design has to be kept in mind in undertaking individual steps. It is only through this approach that concrete social events previously thought to be accidental can be seen to be the result of principles working throughout the society and that their occurrence can be predicted. Mannheim designates these forces as 'the principia media'; and the importance of understanding these forces for social reconstruction arises from the fact that society cannot be rationalized as a factory, because its complex and various living characteristics if not understood will upset the plan. Consequently, planning is the application of foresight to human affairs, so that social progress increasingly proceeds towards a unity regulated through differentiated knowledge of the major social functions. The problem involved is twofold, because in addition to reorganization of society, there must be the freeing and full development of individual man through a new education. The chain of events constitutes a cycle beginning with Galileo and Copernicus and extending through Arkwright and Watts to the changing ideas about man from Rousseau and Herbert Spencer to the contemporary encyclopaedists. The lag of social techniques must overtake mechanical inventions and technological

improvements. This demands the achievement of a dynamic equilibrium that must solve the problem of security of the group as a whole. This can be accomplished only through adequate social techniques co-ordinated towards a general defined objective. Such planning would produce a rational mastery of the irrational forces of uncontrolled industrialization. The fundamental basis must be education whereby human beings become influenced towards desiring the greatest good of the society as a whole. Numerous educational experiments are being made, especially in the past two decades, directed towards this aim. In turn, social techniques require a new type of personnel for administration which is resulting in the civil servant developing into the social servant. In brief, science and increasing industrialization imposes the necessity for functional rationalization of social organization towards objective ends. A planned economy implies definite social goals to avoid being a contradiction in terms. This requires a planned social strategy to co-ordinate all fields of human endeavour through organizing social action towards the optimum good of the greatest number. The foregoing has been re-postulated and summarized by Mannheim in 'Man and Society' from which much of the summary viewpoints has been borrowed. This review of the sociological thought of the constituent members of the Council may seem unduly lengthy. It, however, must be fully comprehended to understand the underlying philosophy and aims of the Council and of the goal of rural reconstruction. The description in 1910 of a model T Ford in itself might have proved an interesting new phenomenon in transportation but without comprehension of the underlying principle of the internal combustion engine the description could not foretell either the 1940 Mercury or the Spitfire, which a knowledge of the principles of the crude 1910 engine would permit envisaging.

'LAND UTILIZATION IN CHINA', edited by J. Lossing Buck (1937), is a basic study of agricultural and population problems from which further social-economic details are obtained but a summary picture of rural China is as follows. The land under cultivation is twenty-seven per cent. Agricultural development is difficult in consequence of fragmentary holdings. Land-owners consist of forty-four per cent of the agricultural population; twenty-three per cent are part-owners; and thirty-three per cent tenants. The medium size of farm area is 3.3 acres. Taxation varies widely from locality to locality but may be said to be 5.2 Chinese dollars per acre. Illiteracy exists amongst sixty-nine per cent of males and ninety-nine per cent of females. The death rate per 1,000 of population is 27 and the birth rate 38.3. Thirty-nine per cent of farmers are in debt. The *per capita* income for rural areas is 80 Chinese dollars per annum, including the value of all the product supplied by the farm.

SUSPENDED ACTIVITIES.

While the China Incident of 1937 disrupted the Council's work almost at its inception in terms of materialization of the eventual plan conceived along the broad principles enumerated above, it may be of interest to report the immediate specific programme in mind when war was declared. The Council had accepted the three necessary factors in social planning, viz. population, natural resources, and the technical arts, with the objective of correlation of these three factors in terms of the principles referred to. These in turn resulted in the postulation of the three initial problems that must be successfully solved in social application, namely, competent personnel, successful methodology, and the problem of organization including finance. The first two were considered the production aspect of rural social planning while the third was the marketing of what has been produced for the benefit of the community. Thus, the universities constituted the factories of methods and personnel and the Institute field the testing laboratory for marketing. The Council considered that the determining one of the three above factors of social planning was that of power, and that consequently an area whose size and boundaries had been decided entirely by a pre-machine age conditions would not permit the solution of the eventual problem in mind. This problem is internationally similar in nature and has probably been best defined with respect to the Tennessee Valley Authority and described below. When the China Incident arose, the Council was actually in process of proceeding along the following lines to implement its responsibilities of social planning along neo-technical lines.

The Council through the National Economic Council was considering a survey of the natural self-contained power units of the country similar in scope to that undertaken by Roosevelt for the United States and whose report has predicted the eventual redistribution of political boundaries of that country's 48 States in terms of seven natural power provinces. It was expected that the completion of such a survey in China would then permit the North China Council to remove its Institute to one of the eventual units for its development on a planned social-economic basis. There seemed every likelihood that there would be no difficulty in securing the large capital which would have been required to develop the power of that area and that must constitute the starting point of a really planned and largely self-contained community. The war naturally suspended development along these lines.

Any conclusion of possible international value from the efforts towards rural reconstruction in China described above would seem to be the extension of university interests to community problems and recognition of responsibility for its colleges

in the social fields to undertake research in determining methods for the efficient utilization of knowledge for the betterment of human welfare and training in these methods. In this connection it is of interest to note the trend of thought in the United States in connection with the experience of the Tennessee Valley Authority already referred to. This experiment is probably the single greatest effort outside of the totalitarian States to develop co-ordination between control of national resources and their more efficient utilization for human welfare through the social organization of society; embracing as it does an area covering part or all of seven States with a population of ten million. The present Director of the Authority, Dr. Morgan, has postulated (1938) that, 'Unless the appropriate fields of universities can be brought into a more realistic relationship with the problems of our democracy, there will be no basis for assurance as to the future. For if this is not done, there is little reason to believe that the basic conflict of ideals in our capitalistic democracy can be resolved sufficiently to preserve public confidence in democratic institutions as a way of life'.

Dr. Morgan's reason for his conclusions was derived from the experience of the Authority which resolved the multiplicity of local reconstruction problems under four heads:

1. Land.
2. Economic.
3. Social.
4. Political or Governmental.

Thus, under 'Land' are included conservation and utilization of natural resources, the problems of flood control, soil poverty, farm tenancy as well as the conflict between agriculture as a way of living and agriculture as a commercial or industrial undertaking, in addition to the problem of agricultural surpluses. 'Economic' includes the effects of local, national, and international markets on problems of plant food supply, the imbalance of population with the centralization of industry, etc. The 'Social' problem includes housing, collective bargaining, technology and unemployment, farm tenancy, etc. The 'Political' problems raise the questions as to whether governmental units should be based upon political or economic considerations; how to make legislation responsive to public needs; the whole subject of taxation, etc. Analysis of any single major problem revealed its inter-relationship to others of equal magnitude. Analysis of the etiology and the previous effort at solution of these problems indicated their hitherto unrelated channels and consequent failure of solution, thereby perpetuating the fallacious public notion that our evils are unrelated to their causes. The inter-association of the various phases and relationships of these problems are summarized in the analysis in the appendix.

The approach to solve these problems revealed three great needs that had to be met and which revealed that the single greatest problem should be Education, viz. the university, because these three needs proved to be personnel trained in reconstruction, a better informed public understanding of what a successful programme involved, and technical and scientific research capable of being related and translated into solutions of regional and national problems. This extended social responsibility, scope of universities implied not only research into the problems listed, but a *translation programme* whereby a system of education should be developed in order that courses of study should include exercises, laboratory and field demonstrations, in the social-economic problems of today, adequate to accommodate instruction from Kindergarten to Graduate and Adult Education. The problems in the more economically backward China led to the same general conclusions.

It may be of interest to conclude by summarizing some of the interesting war developments of the Council groups following the necessary flight of its Institute from Shantung to Kweichow and later to Szechuen.

WAR DEVELOPMENTS.

There is not time to give the credit due to the indomitable spirit of the faculties and students of the numerous institutions which had to flee into Free China, often after overland marches of over a thousand miles on foot. The chief effect on the Council was that the geographical separation of universities from the Institute precluded the latter from continuing its university functions. The Institute staff remained largely intact and it was reconstituted in 1938 in the Tingfan subdivision of Kweichow province as a vocational training institute to serve provincial reconstruction needs. In the meantime, the Mass Education Association had removed its headquarters from Hopei to Hunan province, where it was given the responsibility by the National Government of organizing a provincial public-administration training institute of a vocational nature for a complete war reorganization of the administration of the province, which was expected to be the front-line after the fall of Hankow. Developments forced the evacuation of the movement to Szechuen province. Here, in early 1940 the movement under Mr. Yen in collaboration with the Council Institute established a National College for Rural Reconstruction. This is in effect an institute for training of three categories of personnel in public administration, which was made possible by the removal of the Institute's resources from Kweichow to Szechuen. The newly constituted college was provided with Tachu, the tenth prefectural area of the province, as its community field and immediately inaugurated post-entry training of two types: an A type for senior adminis-

trators consisting of mature men, many of whom had received their training abroad and had held administrative posts in China. The second, B type, was for young graduates to constitute junior personnel. In addition, it is expected that opportunity would afford in 1941 for reaffiliation with universities who had located themselves in the province, in order to renew undergraduate training. The reconstituted institute, in its training-research programme, retains the six departments which were established in Shantung. Its non-routine-administration budget, however, has had to be reduced to approximately Rs.2½ lakhs per annum.

One of the most significant war reconstruction developments of the Government has been Industrial Co-operation. China's modern industry had become established only near the treaty ports and this was the area occupied by the Japanese within the first 12 months of the China Incident. Free China could only remain free provided in addition to war supplies she could assure a minimum of essential consumer goods. Circumstances of transport and of particularly finance would have made import almost prohibitive. Fortunately the imagination and foresight of a half a dozen private individuals were able to bring together the two essentials required for the establishment of industrial co-operation, namely, tools and trained workers. A significant quantity of the former were evacuated to the interior from the coast by Herculean effort. There were hundreds of mechanics of various categories among the thousands of refugees and these were registered and assigned to specific functions. Initially the movement got under way through private funds collected by the small handful of enthusiasts whose demonstration was sufficient to 'prime the pump' in obtaining Government support. In less than three years, some 1,700 societies with 23,000 members have become established with a monthly production of eight million Chinese dollars. The dependants of these members number 200,000. The products come under ten main categories and are meeting an important part of the nation's military and industrial needs. It is expected that the eventual establishment of 30,000 of these co-operatives will provide an economic base which would make China relatively independent of most of the essential items hitherto imported.

Many of these industrial co-operatives have formed also supply and marketing departments. The movement has been fortunate to enlist foreign expert advice on technical matters and some degree of research. These emergency societies will undoubtedly lead to a future national federation after the war. Groups of them have already formed Unions, the various departments of which are linking up with Farmers' Societies for the purchase of raw materials, and it is hoped that this will result in the permanent establishment of numerous Consumers' Societies, and bring about the completion of the co-operative circle, with

the pre-war credit and marketing societies. Another ancillary activity, although possibly as significant as the establishment of industrial co-operation itself is its development of education. The Chinese co-operative law decrees that five per cent of the profits must be utilized for a common good fund. The industrial co-operatives are providing ten per cent for schemes of education and welfare. This education is remarkable in that it emphasizes manual skill and science as well as literary and social activities in the group. There has been an additional problem to solve in meeting the necessity, particularly under the war-time conditions, to train staff for the rapidly expanding industrial co-operation movement and which has been initiated under almost insuperable difficulties in seven regional institutes, where organized courses for 10-12 weeks are given as preliminary to 'post-entry' training in the co-operatives themselves.

DIFFERENCES BETWEEN CHINA AND INDIA.

Rural reconstruction to overcome the lag between Medievalism and the utilization of modern knowledge cannot be successful if dependent entirely upon cash purchase. The latter on account of low economic conditions and inadequate purchasing power must be limited largely to providing the training of self-help workers and their supervision together with necessary additional technical functions which cannot be provided through voluntary effort. The recognition of this principle came early in the Chinese experience as it has here also in India. But in China there are two fundamental differences—that supervision through cash purchase is functional and specific rather than general and non-specific as in India and that training of voluntary workers is chiefly through drills while lectures are limited entirely to demonstration as the reconstruction worker can be trained successfully only by action and never through talk. The former difference requires amplification. The specific problem of reconstruction is postulated as follows: Knowledge of better seeds, of improved animal husbandry, of successful methods of co-operation, of control of causes of excess mortality due to gastro-intestinal disease, malaria, smallpox, etc., is available, but the problem is development of methods which will bring the knowledge within the practice of the individual villager. It would seem that the trend in India, referring to Bengal particularly, is to select trainees from groups of villagers in each *thana* who will each be provided with a smattering of knowledge in all fields during the period of a few weeks in camp and upon return to their respective villages will be responsible for initiating new practices in these fields into the daily lives of the villagers. Supervision of these peripheral and voluntary workers comes through the Circle Officer, who possibly may contact each trainee once a month or at longer intervals. This

Circle Officer himself is a general administrator, who has not had technical training in any specific field. Consequently, while possessing an intelligent realization of the problems involved he must refer technical matters for solution to the duly constituted authority somewhere between him and the Divisional Centre with all the delays attendant in India upon instituting a new file and securing action. However, the most serious defect is the absence of proved methodology in which the trainee can be drilled. This methodology for the purpose in view must be one that under technical supervision has been shown to be practicable of undertaking by voluntary 'self-help' effort. It is insufficient, for instance, to tell the trainee that gastro-intestinal disease is due to soil-pollution and contaminated water to be controlled by sanitary night-soil disposal and safe water. He must, himself, be given repetitive opportunity to dig latrines and wells. And these and other drill measures must have been previously standardized for local conditions.

The Chinese methodology was developed along functional lines as being more effective under rural circumstances. Experience proved that a voluntary village worker with the limitations of his own education and the technical background providable in a brief period could not effectively undertake self-help development in more than one field; and, he could even then do this only if provided with constant technical supervision. The result of experience led to the following unit scheme of organization based upon an area and population that in India would be a subdivision. Administering this is encountered the first 'general' administrator, under whom were functional divisions designed to bring the necessary technical supervision to the voluntary village worker at frequent intervals. In turn, the village workers were designated by each one or two villages (approximately 200-300 families) for training in each major field provided at the subdivisional centre and as stated the training was entirely drill. Supervision and technical services were organized in terms of the particular administrative needs of each field. For instance, the maximum number that could be handled by the unit of the primary health centre was found to be 20,000 population in a radius of 3-5 miles, whereas the primary peripheral units of agriculture and of co-operation were 4-5 times this area and population. There is no time to describe the detailed administration of even one field. But the following summary of the public health may illustrate the principle in question. Self-help in the village was represented by three individuals: the voluntary health worker, the school teacher, and the 'dai'. Each received a period of drill at the secondary subdivisional centre in previously defined standardized routines. The technical staff at each primary health centre consisted of what in India would be designated a Sub-Assistant Surgeon, a Visitor, and a Dresser-compounder. These had received drill

training at a district base. The primary centre personnel discharged their curative functions in the mornings to the patients largely referred from the village health workers and in the afternoons rotated through the 15 or 20 villages to undertake supervisory technical functions chiefly preventive. The primary centre staff returned to the subdivisional secondary centre over the week-ends for 'post-entry' training. In the meantime the 'D.P.H.' type of personnel at the secondary subdivisional centre spent part of the week supervising the primary centres. Similarly, the village workers, as circumstances demanded, attended the primary centres for conferences, and once a year returned to the secondary centre generally during New Year's. The cost of such a health administration was approximately 15 Chinese cents per annum or between 2-3 annas *per capita*, taking the purchasing power of the rupee as equivalent to the Chinese dollar.

The mechanism of rural reconstruction as eventually stabilized was to take the subdivision (hsien) as the unit of operation and to set-up the secondary centre at the subdivisional headquarters. This included technical personnel and facilities for each of the social fields. Mass education was the vehicle through which other reconstruction activities were built around. Experience proved that little value could result from education of adults after the age of 30 years and consequently mass education was limited to adolescents and young-adults. The products of education were constituted into a self-governing village association who selected individual members to be sent to the secondary centres for training in the separate fields and then upon completion of training were made responsible for the extension of activities in that field within the village. As has already been indicated, in each field the voluntary workers were provided with standardized plans which were supervised from the primary technical centre of each administration. It was considered that the initial stage of reconstruction was passed when the village in question had reached the level of constituting its own primary school, the teachers for which, regardless of previous conventional training, were given additional instruction at the Normal School at the secondary centre. Stabilization of reconstruction required the period necessary until the products of these schools could take their place in the community. The pedagogic motive within the school was one whereby the pupils reduplicated various activities of community life in their school syllabus particularly in agriculture, co-operation, health, and civics.

The characteristics consequently of Chinese reconstruction are:—

- (a) Specifically trained voluntary self-help in the villages for each major social function to be reconstructed.

- (b) Weekly supervision of voluntary workers in each field by specialized technical officers.
- (c) Administration organized by specialized function from the secondary subdivisional centre through to primary centres in the villages. The first generalized officer met with was the one administering a subdivision.
- (d) The development of administrative methodology is the responsibility of universities who themselves control large units of population for the purpose of determining practical means of applying basic knowledge for the welfare of the individuals in the community. The university is naturally also responsible for training the senior administrative officers in each major field of application of knowledge. The junior personnel are trained locally at the district base while the village workers receive their training at the subdivisional secondary centre.

The equipment and methodology of activities from the subdivisional base to the village were standardized.

The primary function of reconstruction in China was to initiate and to co-ordinate interested and duly constituted organizations and institutions to the joint solution of social-economic problems of the villages. Reconstruction administration did not include the responsibility either of solving the technical problems, which were considered to be a responsibility of institutions, or of administering activities that was the responsibility of duly constituted technical administrations. This policy seems significantly different on both counts from that developing in India, where reconstruction *qua* reconstruction not only itself attempts to develop the methodology to solve the social-economic problems but is even undertaking administration duplicating duly constituted administration. This policy is wholly untenable and will have to be revised if reconstruction in India is to produce significant results.

This foregoing difference in the two policies of organization and administration in China and India may be summarized as flexible technical judgment versus rule of thumb orthodoxy. There can never be a doubt as to which is the more resultful when it is a question of fixed programme of files and procedures against deeper technical discipline based upon strategy and planning.

REVIEWS OF BOOKS.

STUDIES IN THE PURANIC RECORDS ON HINDU RITES AND CUSTOMS. By R. C. HAZRA, M.A., Ph.D., Lecturer in Sanskrit, University of Dacca. Published by the University of Dacca, Bulletin No. XX, 1940, pp. 367.

This work was approved as a thesis for the Ph.D. degree by the University of Dacca in 1936. In it the author has made a careful study of those chapters of the purāṇas that deal with Hindu rites and customs. His aim is to describe the vicissitudes of Hindu socio-religious life during different historical periods in the past. Dr. Hazra's book is divided into three sections. In the first, the chronology of the relevant puranic chapters has been considered; in the second, the different stages of development of Hindu religious rites have been discussed and the third section consists of an appendix giving a list of references to puranic texts quoted by the authors of the smṛti books. The preparation of this list must have involved a tremendous amount of labour on the part of the author. These passages form the source material of Dr. Hazra's book. This section will prove to be extremely useful to future scholars working on this or on some allied problem. Dr. Hazra has tried to determine the chronology of the puranic chapters that deal with social order and religious practice by correlating their contents to the various works on smṛti. For the dates of the smṛti works he has generally relied on the findings of Mr. P. V. Kane as described in the latter's *History of Dharmasastra*, Vol. I.

Dr. Hazra deserves the highest praise for the diligent care he has taken in collating the original puranic texts with the quotations found in the smṛtis but it is to be regretted that he has not been able to do full justice to his own material. One naturally expects that a scholar who deals with topics discussed by the purāṇas should have a fairly accurate conception of the nature of these books. This is a question of fundamental importance. Dr. Hazra's notion of the purāṇas is open to serious criticism. He has failed to recognize the distinction between the purāṇa and the mahāpurāṇa although the topics discussed respectively by these two classes of books have been definitely stated in more than one place by the authors of the purāṇas themselves and are known to Dr. Hazra. These passages will enable any one to see that the purāṇas in their pure form do not exist as separate books at present. They have been merged in the mahāpurāṇas. It is, however, quite easy for anybody interested in the subject to separate the pure puranic portion, by the five well-known characteristics of sarga, pratisarga, vaṁśa,

manvantara and vaiṣṇānucarita, from the other materials, viz., descriptions of religious rites, etc., forming the rest of the topics of the mahāpurāṇa. It seems further that the author has no clear notion of the five topics of the purāṇa and the relations they bear to one another. One should know exactly why these five topics are grouped together in the purāṇas before one can confidently assert that he has understood the full value of the puranic material.

The author has uncritically followed the European scholars in translating 'pratisarga' as 're-creation' and 'manvantara' as 'cosmic cycle'. As a matter of fact 'pratisarga' as a topic of the purāṇas means 'dissolution of the creation' and not 're-creation' or 'secondary creation'. The dissolution of the universe has been described in Vāyu, Chapter 102, under the heading 'pratyāhāra'. 'Pratyāhāra' is the same as 'pratisarga' as will be seen from the use of the latter term in the same chapter in slokas, 46, 53, 131, 132, 133 and 135. If the author had taken pains to read the topics considered under 'manvantara' he would have immediately seen that this term is a technical one indicating time scales. The ancient purāṇakāras have described in connection with manvantara the time scales they employed for various purposes and their methods of indicating chronology. In fact it is clearly stated in Vāyu, I. 79, that manvantara deals with the knowledge or information about time. The term manvantara has also been used to denote the period of one manu. There are fourteen manu periods in each 'kalpa' cycle which has been conceived on two scales, viz., 'human' and 'divine'. It is the 'divine' kalpa only that may be called a cosmic cycle.

The author is under the impression that the sources of the five different topics discussed in the purāṇas are to be traced to tales, anecdotes, songs, lores, etc. (see p. 4). In support of this view he has quoted a śloka from the purāṇas. This śloka with slight variants is to be found in Viṣṇu, Vāyu, etc. The Viṣṇu śloka is as follows:—

ākhyānaiś cāpyupākhyānair gāthābhiḥ kalpaśudhibhiḥ
purāṇasaṃhitāṃ cakre purāṇārthaviśāradah.

—Viṣ., III. 6, 16.

The author has taken this śloka to mean that tales, anecdotes, etc., 'were used by Vyasa in compiling the original purāṇa' (pp. 4, 5). The correct meaning of the śloka is that Vyasa compiled a purāṇasaṃhitā (a puranic collection and not an original purāṇa) and added to it the material derived from tales, lores, etc., or in other words he converted the purāṇas into a mahāpurāṇa. The third case inflexion in the words 'ākhyānaiḥ', etc., in the śloka does not signify 'by means of' but 'together with' ākhyāna, etc. (see Śrīdharaḥṣya on the śloka). Having failed to distinguish between the true nature of the puranic and that of the non-puranic materials in the mahāpurāṇa it was easy

for the author to assert that 'the present purāṇas have practically turned into smṛti codes' (p. 5). According to the purāṇakāras the puranic material proper was collected not from tales and traditions but from personal observations of reliable persons known as sūtas (Vāyu, I. 31-32, 4. 8, 99. 213; Matsya, 164. 16-18; Brahmāṇḍa, 1. 21). That the purāṇas contain records of past events is to be seen also from Vāyu, I. 201, and Matsya, 53. 71 śloka.

Besides the five puranic topics the mahāpurāṇas deal with visarga or secondary creation, means of livelihood, the incarnation of God for the purpose of maintaining religious and social order, the manifestations of prakṛti and the supreme Brahma. The descriptions of various religious rites and customs prevalent at different times thus form the legitimate subject-matter of the mahāpurāṇas. The mahāpurāṇas have been classified under three heads according as they give prominence to Brahmā, Viṣṇu or Śiva, not for any sectarian purpose but as specialized records of beliefs and customs with reference to the three aspects of the Godhead. It is certainly true that devotees of particular sects have utilized different mahāpurāṇas for the furtherance of their own faith.

The author is under the impression that the determination of the date of composition of a puranic chapter will enable him to fix the chronology of the socio-religious events discussed in the chapter. The mahāpurāṇas, according to their own statement, have been repeatedly redacted at different periods, and ancient materials have found place in comparatively recent writings. For instance, in the third book, eighth chapter of Viṣṇupurāṇa, Maitreya asks Parāśara a certain socio-religious question. Parāśara replies that in ancient times King Sagara asked this very question of Ourva and that he will repeat Ourva's teachings to Sagara in answer to Maitreya's question. The presumption is that in this chapter an ancient tradition has been preserved, and it will be very hazardous to assert that the date of composition of this chapter denotes the time when the customs described therein were prevalent. Our author has taken no pains to avoid this fallacy. It is unjustifiable to assume, as the author has done, that the descriptions of the Kali age refer especially to the disorganization of the society in the post-Buddhistic period. As a matter of fact the original Kali and the Kalki traditions refer to a much earlier period. The puranic Kali age started at the time of Yudhiṣṭhira and according to the Kalkipurāṇa the exploits of Kalki were events of the past. It says Kalki married the daughter of king Bṛhadratha, took king Viśākhayūpa as his ally and killed king Suddhodana and all mlecchas, yavanas and other heretics and restored dharma on this earth. (Kalki, 1. 4. 30; 2. 1. 25; 2. 3. 76; 2. 7. 28.) The names of these kings are to be found in the puranic dynastic lists and they had flourished long before Buddha.

The author believes that the purāṇa texts were written as a whole at some time or other and therefore whatever was added later should be considered as interpolation. Had the author appreciated the true nature of the purāṇas he would have seen that it was the aim of the purāṇakāras as honest recorders of events to keep the purāṇas up to date by the addition of fresh material. In some cases the names of the successive redactors have been mentioned in the purāṇas themselves. Unfortunately the sources that fed the purāṇas dried up some time after the Andhras and the later efforts to keep the purāṇas living were of a sporadic nature. The mention of such comparatively recent events as the reign of Queen Victoria in the Bhaviṣya Purāṇa by some unknown redactor is thus quite in keeping with the spirit of the purāṇas. Therefore, the question of chronology of any particular chapter of any purāṇa is to be considered an useful problem only so long as it helps us to find the chronology of the events and customs described therein.

Wherever Dr. Hazra has found a similarity of language in the description of events or a similarity of events themselves in two different purāṇas he has jumped to the conclusion that the one must have borrowed from the other. Dr. Hazra forgets the possibility of a common source, such as a prevalent tradition or the descriptions given by the sūtas from whom the purāṇakāras, according to their own statements, got their materials. Dr. Hazra writes: 'Many myths and legends, which are found in a concise and older form in the Viṣṇu-p. appear in the Bhāgavata in a much enlarged and elaborate version In the Bhāgavata there are stories which are not found in the Viṣṇu From all this it appears that the Viṣṇu-p. is older than the Bhāgavata' (p. 22). It is needless to point out the logical fallacy that underlies such deductions from negative premises but unfortunately this is a favourite style of argument of the author.

Wherever in any purāṇa Dr. Hazra has been unable to trace a connection between a previous description and an immediately succeeding one he has supposed that interpolations have occurred. I quote a typical example. 'Again, in Mat. 50, 68-71 (Vā. 99, 260-263 ; the Vāyu differs in readings in several places) the sages, wishing to hear of the future, put to Sūta several questions about (1) future kings—their names and the periods of their reigns, and (2) the future ages—their characteristic signs, their merits and defects, and the happiness and miseries of the people during these ages. Consequently Sūta, promising to narrate to them the future Kali age, the future Manvantaras and the future kingships, begins with the future kings and answers all the questions in Mat. 50 (verses 77 to the end = Vā. 99, 270-280a) and 271-273 (= Vā. 99, 281, to the end). About the future Manvantaras, which Sūta himself wants to narrate nothing is said in the Matsya-p. whereas in the Vāyu these are dealt

with in the following chapter (i.e. chapter 100). From these disagreements between the two purāṇas it follows that the Matsya-p. borrowed only those chapters from the Vāyu which it found necessary without caring for the lines containing references to other chapters of the Vāyu' (pp. 29-30). In the first place it is not correct to say that Matsya-purāṇa has not dealt with future manvantaras. In Chapter 51 which follows the one containing the sūtas' promise we do find a description of the future manvantaras as promised by the sūta. Then again in Chapter 9 also of the Matsya-purāṇa future manvantaras have been described. Dr. Hazra would have us believe that the interpolators must have been very foolish people as they even failed to efface the lines containing tell-tale references.

In another place the author writes: 'thus the unknown interpolator creates an opportunity for himself to insert some of the chapters of the Kūrma-p. In doing so he has tried to efface the Śaiva stamp which these chapters bear. Thus in a few places the names of Śiva have been replaced conveniently by those of Viṣṇu, while in many other places the names of the god have been retained intact' (p. 111).

It seems that according to our learned author it was not only the interpolators that showed a curious admixture of foolishness and carelessness but also the smṛti authors showed similar traits. He writes: 'The few cases, in which the verses quoted by Hemādri from the Bhaviṣya-p., are found in the Uttara Parvan, must be due to the confusion between the titles "Bhaviṣya" and "Bhaviṣyottara"' (p. 170). According to the author although some of the smṛti writers knew the apocryphal character of the present Brahma-purāṇa still they quoted from it. They were foolish enough to believe in the authoritativeness of the upapurāṇas and to give them the same importance as the mahāpurāṇas as sources of dharma (pp. 146, 151). The attitude, seen in some modern scholars, of considering purāṇakāras and other ancient authors as foolish and careless persons incapable of even simple calculations, indulging in all sorts of exaggerations for the purpose of deceiving people and unable to guard themselves against inconsistencies which even a child would detect, is indeed curious.

In Part II of his book the author, in trying to give a description of the Hindu society and the different stages in the development of puranic rites and customs, has depended generally on non-puranic sources; he has merely reflected the well-known views of the European scholars. The author's wrong ideas of the nature of the purāṇas and his unfamiliarity with the broad principles of the Hindu religion and of the relations existing among the vedas, the smṛtis and the purāṇas, have landed him in a pitfall in many places. European scholars have been familiar with the history of an almost continuous enmity between the Church and the State in their own country and they have

naturally assumed from the record of a few quarrels between a Brāhmaṇa priest and Kṣatriya ruler that in India also there must have been a similar eternal opposition between the Brāhmaṇas and the Kṣatriyas; their personal attitude towards the caste system and towards the supremacy enjoyed by the Brāhmaṇas in certain affairs of life made them readily believe in the anti-thesis, brahminical and non-brahminical, which they have ridden to death. It is a pity that some Indian scholars should allow themselves to be dominated by such views.

The absence of critical insight on the part of the author has resulted in his making contradictory statements at several places. He writes on p. 252, 'From what has been said above it is clear that in the Purāṇas the Brāhmans adopt every possible means to make the people bounteous to themselves. They are not, however, satisfied with this even. They become so greedy for gifts that they call upon the administrative power of the king to force the people to be charitable to themselves in normal times as well as in famines . . . The avaricious character of the gift-seeking Brāhmans seems also to be indicated by the stories of fatal quarrels over the possessions of gifts'. In p. 255, however, the author draws quite a different picture. 'In spite of all their preachings for gifts, the Brāhmans seem never to have ignored the ideal of simplicity and asceticism. They formulate that a Brāhmaṇa should live a simple life in which excess of wealth should have no place. He should not be greedy, nor should he be anxious for the acceptance of gifts, because greed of money causes degradation. He should accept from others only the amount which will give him a bare subsistence . . . they are to spend it for the maintenance of their dependents, for the worship of gods, for entertaining guests, for performing sacrifices and for making gifts, but never for enjoyment.'

Inferences, deductions and interpretations are not the author's strong points but the book will be considered valuable for its appendix.

G. BOSE.

THE SANTAL INSURRECTION OF 1855-57.—BY KALIKINKAR DATTA, M.A., Ph.D. Published by the University of Calcutta, 1940.

Dr. Datta deserves our thanks for drawing attention to the little known Santal Insurrection. Historians are divided between those who can see a pattern in the sequence of events, and those to whom the pattern remains hidden. This story at least points a moral, that even the humblest subjects of a country are affected by changes in the government. Unlike the Sepoy mutiny, the Santal rising was not in its origin anti-British, nevertheless it was a result of the spread of British power in India. The extension of the reign of law and order gave more security to the propertied classes, and so far as the Santals were concerned, legalised the rapacity of the money lenders into whose clutches they were falling. The administration was inexperienced in the art of protecting special classes of people, and a widespread breakdown of authority resulted. All this has been well brought out by Dr. Datta, who also devotes most of his pages to an account of the outbreak and progress of the insurrection, and the measures taken to suppress it. He has assiduously searched record rooms in Bhagalpur and Dumka, and has also unearthed some contemporary manuscripts in Bengali and Hindi, which portray vividly the hysteria which prevailed in the bazaars of what is now the Santal Parganas in the rainy season of 1855. It is hard to escape a feeling, however, that the actual events of the insurrection, and government measures for suppressing it were of little significance in themselves. The occasional clashes between troops and the hordes of primitively armed rioters (for that is what they were in fact), hardly deserve to be treated seriously as military operations.

We confess to being disappointed with Chapter IV, entitled 'Sequel to the Insurrection'. Not only was the Government convinced of 'the necessity of adopting prompt measures to bring Santali areas under an effective administrative control', but the creation of a non-regulation district led to the possibility of Government regarding itself as the trustee of the Santal, and so setting up a system of administration suited to primitive people. How far this opportunity has been successfully used is another matter and one which we could scarcely expect to find debated in a history of the insurrection. There is not sufficient recognition of the fact that there are very considerable Santal areas outside the area in which the disturbances took place, in which the Santals continued to live for many decades under difficulties which were removed for their brethren in the Santal Parganas as a result of the insurrection. It is not entirely accurate to picture the direction of missionary activity to the aborigines as one of the important results of the insurrection.

The Rev. James Phillips, of Midnapur, had by 1852 published 'An Introduction to the Santali Language'.

The student of Santal culture will be merely tantalized by this book. To take one example, from several that might be chosen, there is the twice repeated reference to the Santals making use of 'poisoned arrows'. What is the authority for this statement, and can it be trusted? So far as the reviewer is aware the art of poisoning the tips of arrows is unknown to the Santals of to-day, nor do they appear to have any tradition of such an accomplishment in the past. Have we here a clue to some little known and hitherto unsuspected trait in Santal culture, or is the statement based on evidence which cannot be (ethnologically) trusted? One could have wished for more treatment of those features of the rising which would throw light on the psychology of primitive mass movements. Perhaps the available records are too meagre to yield much result, but it is a pity that the invaluable narrative of Chotrae Desmañhi, a Santal, who as a boy of fourteen or fifteen took part in the rising, is apparently unknown to the author. (It is published only in Santali, at the Benagaria Mission Press.)

There are several appendices which considerably enhance the value of the book, and we are grateful too for the useful index.

W. J. CULSHAW.

ṚGVEDA: VOLUME I (AṢṬAKAS 1 AND 2, pp. 10+478). TRANSLATED INTO TELUGU BY SHRI B. MALLAYYA SĀSTRĪ. Published by the Vinayāshram, Guntur Dt., Andhra Desh. Price Rs.2-8.

The long-awaited Telugu translation of Ṛgveda has come out for the first time from the nationalistic Vinayashram, one of whose fundamental aims is to publish in Telugu all the sacred books of the Orient.

This volume enables many a layman to have a peep into the ancient culture of Hindusthan. The original text is given with the *svara*, accompanied by a faithful rendering of Sāyaṇa's immortal commentary. Here and there the translation affords some difficulty in *anvaya*, owing to the mixing up of the grammatical and the colloquial dialects, so common with the Sanskrit scholars of Andhra Desh. The language is lucid, despite its archaisms.

Naturally enough, being the first of its lot, a good number of unwanton things have crept into the text, which, we hope, will be remedied in the subsequent volumes. The omission of the *padapāṭha*, even in the first edition, causes much regret to the students of Vedic literature and culture. So far an edition of Ṛgveda without *padapāṭha* was considered to be above uncertainty, for it is the latter that makes many a *Ṛk* easy of understanding, despite a faithful translation. The complexity of the situation has been enhanced by the improper spacing given throughout. Curiously enough some mistakes have crept even into the text as in 1. 4. 3 अगहि for आगहि, 1. 4. 10 सद्वा नेत्सुपारः for सद्धान्त्सुपारः, 1. 9. 1 सद्वाँनभिष्टि for सद्वाँ अभिष्टि, 1. 10. 5 निष्टिधे for निष्टिधे, and so on.

Lack of proper accentuation, as in 1. 12. 9, distinguishes some. When our ancients handed down the text with proper *padapāṭha* and *svara*, from generation to generation with some belief in its sanctity, it would have been better if all errors were avoided at least in the *Ṛk* text. We hope these things will be properly taken care of in the subsequent editions.

Anyhow, the text is a valuable addition to the Āndhra Sārasvat, as it serves as an inspiring text for the educationists and the literary people to undertake some more editions of the Ṛgveda in the future. In the preface we are promised that the views of the modern interpreters and of some other ancient commentators, together with the Translator's views, will appear in the last volume, which, when it is published, will be a really noteworthy original contribution in the field of Vedic exegetics in Telugu.

P. S. SASTRI.

